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**MARINA**

**Marine Knowledge Sharing Platform for Federating  
Responsible Research and Innovation Communities**

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*MS2 Report on international MML workshops*

*R1*

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MML WORKSHOP	DETAILS
<b>Date</b> (DD/MM/AAAA)	11/05/2017
<b>Duration</b> (From 00:00 hrs to 00:00 hrs)	08:30 – 18:00
<b>Location</b> (Country, City)	BOULOGNE SUR MER, FRANCE
<b>Title</b>	Maritime Cuisine Meets Sustainable Tourism
<b>The Marine Challenge that the MML workshop has tackled</b>	Tourism and coastal cities Fishing and aquaculture
<b>Type of workshop</b> (local or international)	International
<b>Round</b> (first or second)	First
<b>Selected methodology</b> (Focus Group, World Café, Science Café, Delphi, Structured Democratic Dialogue Process, Future Search, etc.)	Structured Democratic Dialogue
<b>Language of the workshop</b>	English
<b>Name of the organizing institution</b>	Nausicaa
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## 1 Purpose of the report

The purpose of this report is to describe the international Mobilisation and Mutual Learning (MML) workshop “Maritime Cuisine Meets Sustainable Tourism” that was hosted by Nausicaa, National Sea Experience Centre in Boulogne sur Mer in France on 11<sup>th</sup> May 2017. The workshop addressed Responsible Research and Innovation (RRI) actions that should be put in place so that sustainable seafood production and consumption would contribute to the development of competitive and sustainable coastal and maritime tourism in Europe.

The report describes the results of the workshop and the feedback from the participants. It includes a general outline of the MARINA pan-European MML process of stakeholder engagement in marine and maritime issues and Responsible Research and Innovation, the facilitation methodology, the participant recruitment and the follow-up actions.

The results of the workshop will be used to refine the second round of the international MML workshops scheduled in the first half of 2018 and to develop a roadmap of Responsible Research and Innovation good practice as well as recommendations about embedding the RRI in the policy-making processes.

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### 3 Executive Summary

On 11<sup>th</sup> May 2017 Nausicaa, National Sea Experience Centre hosted an international Mobilisation and Mutual Learning (MML) workshop *Maritime Cuisine Meets Sustainable Tourism* in Boulogne sur Mer in France. The workshop sought to address Responsible Research and Innovation (RRI) actions that should be put in place so that sustainable seafood production and consumption would contribute to the development of competitive and sustainable coastal and maritime tourism in Europe.

The event was held in the framework of the MARINA project and was part of a Mobilisation and Mutual Learning Process composed of two phases at local and international levels. The workshops engaged European civil society, business, research and policy-makers in a participatory debate to examine how Responsible Research and Innovation can help to overcome the current marine societal challenges and unlock the potential for Blue Growth in marine and coastal areas of the European Union.

The day-long workshop was facilitated according to the Structured Democratic Dialogue method. This method allows for integrating contributions from individuals with diverse views, backgrounds and perspectives through a process that is structured, inclusive and collaborative. The participants were recruited based on their expertise and interest in sustainable tourism and seafood consumption.

During the workshop they presented 34 ideas of Responsible Research and Innovation actions and developed a roadmap of how sustainable seafood production and consumption could contribute to competitive and sustainable coastal and maritime tourism in Europe. From the roadmap, they proposed eight SMART action plans that could be put in place as individual projects to launch the process.

The workshop was webcast on the MARINA platform and on [Nausicaa's YouTube channel](#).

The chief message was the importance of tourism sustainability that could be achieved by educating all stakeholder groups: the general public to make informed responsible consumption choices while purchasing tourist services and seafood products, business and industry professionals to produce socially and environmentally acceptable goods and services, scientists to bring responses to sustainable tourism and seafood production challenges and finally policy-makers to reinforce policies and adopt coherent legislative frameworks of economic competitiveness and sustainability of tourist destinations.

## 4 How MARINA partnership engaged societal actors in Responsible Research and Innovation for sustainable coastal and maritime tourism in Europe.

### 4.1 International Mobilisation and Mutual Learning Workshops

The international Mobilisation and Mutual Learning (MML) workshops held in the framework of the MARINA project have been part of a Mobilisation and Mutual Learning Process composed of two phases at local and international levels and connected to the international RRI practitioner and policy-maker events. The second phase of the MML workshops will end with a high-level policy conference.

The first round of the international MML workshops was carried out from April 2016 to October 2017 and resulted from the local MML workshops that addressed similar or related topics. The outcomes of the international MML workshops will be related to the international RRI practitioner and policy-maker events and the final high-level policy conference. The process can be illustrated as follows:



Fig.1. MARINA Mobilisation and Mutual Learning process

The international MML workshops:

1. Engaged European citizens and stakeholders in a participatory debate, consultation and co-creation activities with regards to marine societal challenges.
2. Integrated citizens' visions, needs and desires into research and innovation processes in joint RRI-driven roadmaps.
3. Started the process of federating the existing communities and networks of researchers, Civil Society Organisations (CSOs), citizens, industry, policy-makers, research funders and communicators.
4. Set in motion inclusive mechanisms for sharing knowledge and best practice, building common understanding and co-creating solutions to marine societal challenges and base them on the RRI principles and socio-technical approach.
5. Facilitated joint co-creation of the Web Knowledge Sharing Platform.
6. Suggested policy options for embedding the RRI in the marine sectors at EU, national and sub-national levels.
7. Initiated spill-over to other activity sectors.

## *4.2 How can Responsible Research and Innovation contribute towards making tourism in coastal and marine areas of the European Union a driver for sustainability?*

### *A pan-European Mobilization and Mutual Learning process to involve stakeholders and citizens in drawing roadmaps towards sustainable coastal and maritime tourism in Europe.*

From November 2016 to March 2017, MARINA partner organisations held 17 local MML workshops attended by over 400 European societal actors all over Europe. They discussed marine societal challenges such as fishing and aquaculture, pollution caused by human land and sea pressures, renewable energy, tourism and coastal cities, and marine changes caused by climate and suggested Responsible Research and Innovation driven roadmaps to address these challenges. As a result, among several factors affecting coastal and marine ecosystems, tourism was identified both as a major source of pressures and as a driver of economic growth. Its correct management could encompass not only a need to reduce its impacts, but it can also be a driver of sustainable development of economic activities and foster the protection of marine and coastal environments while maintaining economically and socially viable local communities.

In the Blue Growth strategy, the European Union has identified coastal and maritime tourism sector as an area with special potential to foster a smart, sustainable and inclusive Europe. Tourism is the biggest coastal maritime sector in terms of gross added value and employment and, according to the Blue Growth Study<sup>1</sup>, it is expected to grow by 2-3% by 2020. It employs almost 3.2 million people, generating a total of € 183 billion in gross value added and represents over one-third of the maritime economy<sup>2</sup>. In 2012, there were 534 million tourist arrivals in Europe, which is 17 million more than in 2011 and 52 % of all international arrivals worldwide. Revenue generated by inbound tourism reached € 356 billion, i.e. 43% of the world total.

In 2015 members of the United Nations Organisation adopted the 2030 Agenda for Sustainable Development, along with 17 Sustainable Development Goals (SDGs). They aim to end poverty, protect the planet, and ensure prosperity for all. The tourism industry can contribute to achieving several of these goals and tourism has been included as target in Goal 14 on the sustainable use of oceans and marine resources, thus requiring a clear implementation framework, financing and investment in technology, infrastructures and human resources.

Furthermore, the United Nations (UN) Organisation has declared 2017 as the International Year of Sustainable Tourism for Development. This represented a unique opportunity for the MARINA partnership to raise awareness among public and private sector, decision-makers and the general public about **tourism** as a catalyst for societal and environmental positive changes and to bring these stakeholders together to propose innovative and smart solutions to the multiple challenges facing the sector in the key areas identified by the UN:

- Inclusive and sustainable economic growth
- Social inclusiveness, employment and poverty reduction
- Resource efficiency, environmental protection and climate change

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<sup>1</sup> [https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/study-maritime-and-coastal-tourism\\_en.pdf](https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/study-maritime-and-coastal-tourism_en.pdf)

<sup>2</sup> Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions; A European Strategy for more Growth and Jobs in Coastal and Maritime Tourism, Brussels 2014, COM(2014) 86 final, [https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/com\\_2014\\_86\\_en.pdf](https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/com_2014_86_en.pdf)

- Cultural values, diversity and heritage
- Mutual understanding, peace and security

Responsible Research and Innovation (RRI) can help to overcome the current marine and societal challenges and unlock the potential for Blue Growth. There is a strong need for redefining and refocusing the business model of tourism. Therefore, the future success of maritime and coastal tourism will depend on the ability of the European countries to develop sustainable and integrated value propositions that take into account the needs and ambitions of society and reflect its values. In this context, Responsible Research and Innovation (in processes, products, services and technologies) can provide valuable solutions. Its dimensions of public engagement, gender equality, science education, open access, ethics, governance and environment protection, can become a framework for allowing societal values and expectations as well as environment to be taken into account in the process of reshaping coastal and maritime tourism business models.

Stemming from the results of the local MML workshops and from the international agendas, the MARINA partners (ISPRA, Nausicaa, University of Aalborg and SmartBay) organized four International MML workshops for citizens, scientists, business and industry representatives and policy makers in Italy, France, Denmark and Ireland. They discussed:

**“How can Responsible Research and Innovation contribute to implementing tourism as a driver for sustainability in marine and coastal areas of the European Union?”**

taking into account the Horizon 2020 societal challenges in the context of four marine issues:

- Sea pressures and marine environmental status** (*Sustainable Maritime and Coastal Tourism, Sea Pressures and Responsible Research and Innovation*, 4<sup>th</sup> April 2017, Venice, ITALY)
- Food security, management of marine living resources and sustainable seafood** (*Maritime Cuisine Meets Sustainable Tourism*, 11<sup>th</sup> May 2017, Boulogne sur Mer, FRANCE)
- Planning the uses and urbanization of coastal areas** (*Sustainable Tourism in Coastal Areas: the Challenge of Urbanisation*, 30<sup>th</sup> May 2017, Copenhagen, DENMARK)
- Marine Protected Areas** (*Explore the Development of Sustainable Tourism Opportunities within Marine Protected Areas through Responsible Research and Innovation*, 5<sup>th</sup> October 2017, Galway, IRELAND)

#### **4.3 “Maritime Cuisine Meets Sustainable Tourism” or How can Responsible Research and Innovation contribute to sustainable maritime and coastal tourism in relation to seafood consumption, provision and, the management of marine living resources?**

Tourism in coastal and marine areas generates a huge demand for seafood products from fishing and aquaculture. In some cases this demand is matched by the offer of products the quality of which can be limited and the origin may not be local or certain. This process, if not properly managed, could trigger the dismissal of artisanal fishing and aquaculture activities, fostering industrial fishing and intensive aquaculture, thus impacting not only natural resources but also local communities’ habits and traditions.

The hot topic of sustainable tourism and seafood was related to the following Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development:

**SD Goal 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture**

Tourism can spur aquaculture productivity by promoting the production, use and sale of local produce in tourist destinations and its full integration in the tourism value chain. In addition, agro-tourism, a growing tourism segment, can complement traditional aquaculture activities. The resulting rise of income in local communities can lead to a more resilient aquaculture while enhancing the value of the tourism experience.

***SD Goal 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.***

Devising and implementing policies to promote sustainable tourism that creates jobs and promotes local culture and products without harming the environment, will contribute to stimulating economy by 2030.

***SD Goal 12: Ensure sustainable consumption and production patterns.***

A tourism sector that adopts sustainable consumption and production practices can play a significant role in accelerating the global shift towards sustainability. To do so, as set in Goal 12, it is imperative to develop and implement tools to monitor the impacts of sustainable tourism that creates jobs, promotes local culture and products. The Sustainable Tourism Programme of the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns aims at developing such sustainable consumption and production practices, including resource efficiency initiatives that result in enhanced economic, social and environmental outcomes and a better quality of life for all. It also involves engaging tourists through awareness raising and education on sustainable consumption and lifestyles, providing them with adequate information through standards and labels.

***SD Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.***

Coastal and maritime tourism, tourism's biggest segments, rely on healthy marine ecosystems. Tourism development can help conserve and preserve fragile ecosystems and serve as a vehicle to promote the blue economy.

Seafood security involves different stakeholders: the fishing sector, business, scientists, retailers, control agencies, consumers, media and several others. Therefore, sustainable seafood production and consumption require a systemic approach and cooperation among all actors operating in the supply chain, from fisherman to final consumer.

Determination and prediction of seafood quality is a hot topic because of the increase in international markets for fresh fish products and the growing aquaculture industry. More fish is being transported long distances than ever before, and means of evaluating freshness are required to help predict end-user quality. Several EU legal regulations impose providing the consumer with information about the production of fisheries and aquaculture (Regulation (EU) No 1379/2013), the traceability (Regulation (EC) 1224/2009) and labelling (Regulation (EU) 1169/2011).

#### ***4.4 The MML workshop methodology: Structured Democratic Dialogue***

The international MML workshops were facilitated according to the Structured Democratic Dialogue (SDD) participatory method. A week before the workshop the participants provided their input in response to the triggering question by e-mail or published it on the MARINA Knowledge Sharing Platform. The face-to-face workshop lasted one day and was carried out by a professional facilitator from Cyprus Neuroscience and Technology Institute. The SDD method ensured that the participants



developed a joint roadmap based on a common vision and focused on the RRI-driven solutions and actions addressing an aspect of the sustainable maritime and coastal tourism.

**The Structured Democratic Dialogue (SDD)** was developed by Aleco Christakis (Christakis, 1973), John Warfield (Warfield, 1982) and Hasan Özbekhan (Özbekhan, Jantsch & Christakis, 1970) in the Club of Rome in the 1970s. The method enables a democratic and structured dialogue among a heterogeneous group of stakeholders in a limited amount of time. It is effective in resolving multiple conflicts of purpose and values, in identifying obstacles as well as generating action plans to sufficiently respond to complex questions. The SDD<sup>SM</sup> allows for integrating contributions from individuals with diverse views, backgrounds and perspectives through a process that is structured, inclusive and collaborative.

### Avoiding “Groupthink” and the “Erroneous Priorities Effect”

Whenever no measures are taken for the protection of the authenticity of all ideas, there is a risk that some participants might support ideas that represent the majority of the group simply because they would not want not to “go against the flow”. Consequently, the participants end up with an apparent agreement which in reality, represents the views only of the dominant group. This phenomenon, known as “Groupthink,” is eliminated in the SDD<sup>SM</sup> as it exploits a scientific methodology known as the Nominal Group Technique (NGT). The NGT is based on equal time and emphasis allocated to each idea ensuring thus, that the “Groupthink” phenomenon does not appear.

If several stakeholders discuss, propose and then choose ideas that are viewed as more important by the majority, it is very likely that they will decide to invest in solving sub-problems that at first seem to be important (as viewed by the majority). However, judging these ideas under the prism of how influential they are with other ideas that have been submitted, the likelihood is that those initially viewed as more important are not really the most important as they are less influential than others. This phenomenon, known as the Erroneous Priorities Effect (EPE), is eliminated in the SDD<sup>SM</sup> by exploiting the Interpretive Structural Modeling (which is embedded into the Cogniscope<sup>TM</sup> software), the designed algorithms of which, prioritize ideas based on the influence they have over each other.

### Structure and Process in a SDD workshop

The process of a typical SDD<sup>SM</sup> session, with its phases, can be viewed in the following figure and is explained in detail below:

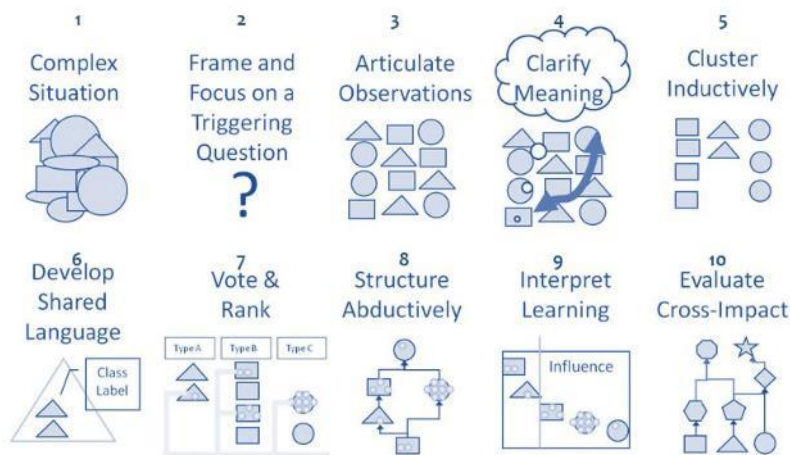


Fig.2. Phases of the SDD SM session

The dialogue was constrained and sharpened with the help of a **Triggering Question** [Fig.2, Shapes 1&2]. It was formulated by the Knowledge Management Team composed by the owners of the complex problem (i.e. the workshop organiser and the MARINA MML workshop coordination team) and the SDD<sup>SM</sup> expert. The triggering question was emailed to all participants one week before the MML workshop, who were requested to respond with at least two contributions either on the MARINA Knowledge Sharing Platform or by email before the meeting.

All contributions/responses to the triggering question were recorded on the Knowledge Sharing Platform or/and in the *Cogniscope III*<sup>TM</sup> software. They were submitted in two forms: a short and concise phrase (one idea in one sentence) and a paragraph where the authors clarified their ideas in a few additional sentences [Fig.2, Shapes 3&4].

The ideas were clustered into categories based on similarities and common attributes. If time was short, this process was carried out by small groups [Fig.2, Shapes 5&6].

All participants were given five votes and were asked to choose the ideas that were most important to them. Only ideas that received votes went to the next phase [Fig.2, Shape 7].

In this phase, the participants were asked to explore influences of one idea on another. They were to decide whether solving one problem would significantly contribute to solving another problem. An influence receiving a majority was established on the map of ideas. Thus, the items at the bottom of the map were the most influential factors and the priority actions to take [Fig.2, Shapes 8&9].

Using the root factors, stakeholders developed an efficient strategy and came up with a road map [Fig.2, Shape 10].

## 5 Maritime Cuisine Meets Sustainable Tourism

### 5.1 The Hot Topic description

Tourism is a growing business in Europe and the challenge is now to exploit its potential in a way that sustainably produces economic benefits.

Today many tourists seek a unique and customised experience rather than a traditional sun-and-sea package holiday. They want to meet local people, learn about how they make a living and taste the fruits of that labour. They consider food to be as important as accommodation and good weather conditions. Although many cities, regions or countries are famous for their food, culinary tourism searching unforgettable eating and drinking experiences is not limited to food culture and tasting local food. Every tourist eats at least three times a day, making food one of the major economic drivers of tourism.

For seaside tourists, seafood is a key culinary attraction and in coastal areas there is a high demand for local seafood among tourists to the region as well as among local residents. This process, if not properly managed, can threaten artisanal fishing and aquaculture, foster unsustainable large scale industrial fishing and intensive aquaculture, thus impacting not only natural resources but also the activities and traditions of local communities.

Fish resources suffer intense pressure from overfishing. Fishing communities tend to be over-dependent on this single source of income and diversification is needed to improve local livelihoods and the declining profitability and employment.

The culinary attraction of seafood, part of Europe's rich cultural heritage, is often linked to tourists' interest in the fishing culture of the region. This cultural aspect of seafood production can lead to diverse activities that today's tourists are looking for: touring a fish farm, trying one's hand at fish harvesting, learning the art of cooking seafood, visiting a fish auction, taking part in fishing demonstrations and contests. Fresh fish markets and seafood festivals have become a real highlight to promote local seafood traditions.

The tourist sector suffers from business fragmentation, lack of investment and innovation, volatility of demand and seasonality. It should develop new products that will promote the attractiveness and accessibility of gastronomic activities and decrease economic inequality and social tensions between relatively poor locals and relatively rich tourists. The sustainable seafood production and consumption have the potential to enhance the image of Europe as a sustainable high-quality destination and promote the specificity of regional sea basins, which can be translated into a competitive advantage. Therefore, it is a major component for the development of sustainable coastal tourism while contributing to responsible management of marine and coastal resources.

## ***5.2 How is the workshop topic related to Responsible Research and Innovation?***

There is a strong need for redefining and refocusing the business model of tourism. Therefore, the future success of maritime and coastal tourism will depend on the ability of the European countries to develop sustainable and integrated value propositions that take into account the needs and ambitions of society and reflect its values. In this context, Responsible Research and Innovation (in processes, products, services and technologies) can provide valuable solutions to overcome the current marine and societal challenges and unlock the potential for Blue Growth. Its dimensions of public engagement, gender equality, science education, open access, ethics, governance and environment protection, can become a framework for allowing societal values and expectations as well as environment to be taken into account in the process of reshaping coastal and maritime tourism business models.

### **5.2.1 Engagement**

The tourism sector lacks support in the development of transnational and interregional partnerships, networks, clusters and smart specialisation strategies. It needs new partnerships with businesses and universities to develop customised programmes.

Collaboration with other companies in the seafood chain and social and environmental actors is needed to improve access to information (traceability, certifications), research on improvements and innovation of practices and to better meet environmental and social standards.

Changing customer demand requires attractive and sustainable products that provide unique and customised experiences. Still, potentially interesting tourist sites are often not promoted attractively or not well linked with other tourist offers. Cooperation among research institutes, museums, tourism companies and other stakeholders has the potential to develop innovative and sustainable products and services that will respond to new visitors' expectations. Engagement of fishermen communities in this process will also help to continue fishing activities and ensure their environmental, economic and social sustainability.

### **5.2.2 Science education**

Raising awareness about marine issues and sustainable management of marine resources (marine biodiversity, vulnerability of marine ecosystems and food chains, etc.) in communication campaigns and educational programmes such as Mr.Goodfish are not included in tourist offers and packages. Reliable scientific information is not easily accessible for tourist and stakeholders of the tourism industry.

### **5.2.3 Open access**

Open access, i.e. giving free online access to the results of publicly-funded research (publications and

data) will boost innovation and increase the use of scientific results by all societal actors.<sup>[11]</sup> Open access may also mean traceability of seafood products, transparency about supply chains and the ability to trace seafood back to its source is critical to environmental and social improvements (public trust). Even though more and more consumers look for high quality fish that are caught in a sustainable way, there are few adequate traceability instruments and tools that allow them to know the origin of fish they buy and the fishing gear it has been caught with. The risk of fraud (e.g. selling imported or farmed fish as local) is still present.

#### 5.2.4 Gender equality

The coastal and maritime tourism faces challenges that can negatively affect women's presence in this industry. In particular, as in many sectors, labour market segregation is a challenge: women are over-represented in lower-skilled and lower-paid areas of hotel, catering and tourism (HCT) work, particularly in areas such as housekeeping and some customer services. Women are also more often employed in part-time and temporary jobs or even carry out a large amount of unpaid work in family tourism businesses. In the seafood industry, women are mainly engaged in seafood processing and little in fishing and aquaculture activities. In addition, women's presence in decision-making positions is not particularly high: a survey covering 78 tourism companies with information publicly available (including international tour operators, airlines and cruise ships, hotel groups and international professional associations and certification bodies) indicates that women make up 18.5% of all board members, i.e. 99 women out of a total of 526 positions.

#### 5.2.5 Governance

The United Nations World Tourism Organisation (UNWTO) and the United Nations Environment Programme (UNEP) have identified 12 aims for sustainable tourism governance and management: economic viability (competitiveness of tourism destinations, able to deliver benefits in the long term), local prosperity, employment quality, social equity, visitor fulfilment (satisfying tourism experience available to all), local control (empowering local communities in planning and decision making), community wellbeing, cultural richness, physical integrity (quality of urban and rural landscapes), biological diversity, resource efficiency and environmental purity (minimising pollution of air, water and land, and decreasing generation of waste). They provide the basis for tourism policies but also to policies relating more broadly to sustainable development and the environment.

Nevertheless, the critical requirement of governance for sustainable tourism is that there is active engagement of the key public and private stakeholder bodies whose policies and actions can significantly affect the development and impact of coastal and maritime tourism.

#### 5.2.6 Ethics

The ethical challenges relate to respect of fundamental rights and conditions at work in the entire supply chains, to the rights of local communities to prosper and to the rights of future generations to have healthy seas and oceans with abundant resources available to all.

### ***5.3 The triggering question: What types of Responsible Research and Innovation actions should be put in place so that sustainable seafood production and consumption could contribute to competitive and sustainable coastal and maritime tourism in Europe?***

#### ***5.4 Generating ideas***

The participants who registered for the workshop received the description of the hot topic that was to be discussed 10 days before it. They were requested to submit two ideas of actions in reply to the

triggering question here above (cf. 5.3), in written on the MARINA platform, ahead of the workshop. They were sent instructions about how to formulate their ideas in two formats and guidelines on the use of the MARINA platform. In total 34 action ideas were submitted: 30 online and 4 during the workshop. Three participants were not able to attend the workshop till the end so others agreed to take over their ideas so that all of them should be taken into account while creating the final roadmap.

The action ideas are in the event section under the title *Maritime Cuisine Meets Sustainable Tourism* on the MARINA platform accessible through the MARINA website [www.marinaproject.eu](http://www.marinaproject.eu). Moreover, each individual action was videoed as it was being clarified and assembled in the Idea Prism smartphone/IOS free application. The entire workshop was live webcast on YouTube channel of [Nausicaa](#).

The greatest challenges of this phase were to get the participants submit the action ideas online on time and to obtain the actions formulated in a clear, direct and concise way. Therefore, an intern was engaged to stay in touch with the participants by telephone and to assist them with this task.

### 5.5 Clarifying and merging ideas

Even though many ideas revolved around the central theme of connecting tourism, seafood business and local tradition and culture, no ideas were merged. This is because they described different activities related to enhancing tourist offer, local communities and businesses.

The participants added a new action *Create seafood producers organizations* (such as in Spain and Italy) at the end of the clarification phase. The action idea resulted from the discussion about the need to reduce the gap between the producers and consumers, the lack of such organisations in France and the need to change people's mind-sets to work together.

Much attention was given to education and awareness raising of all stakeholder groups with an emphasis on different communication and marketing mechanisms that may work better for different interest groups.

### 5.6 Clustering and prioritizing ideas

During the clustering phase, the participants assembled their ideas in four clusters: 1. *Education – Awareness*, 2. *Involving Consumers*, 3. *Creating Conditions for Sustainability* and 4. *Develop Tourist Products*. The names of clusters were chosen according to the type of actions. The clusters that counted the biggest number of actions (11) were clusters 3 and 4. The remaining two clusters 1 and 2 had 6 actions each.

Three actions: 9 - *Waste: Informing & educating about the vicious circle*, 13 – *Make tourists appreciate local production by inviting them to help out* and 33 – *Public transports* did not receive any votes.

The ***Involving Consumers*** cluster 2 (Fig.3) received the biggest number of votes (25) with an average of 4,17 votes/action and 4,7 RRI dimensions/action. It focused on seafood consumption and assembled 6 actions that aimed at empowering the public at large. The actions related mainly to the RRI dimensions of Public Engagement and Science Education. They were specific measurable, assignable, realistic and allowing for short term RRI advances and visible wins: developing a mobile application (7 votes) that would assist consumers and tourists in choosing seafood from sustainable fisheries and aquaculture farms, organising cooking workshops/classes, tasting events and “discover a new fish” days to give value to less known and unthreatened species and by-catches, and adopting the CSA (Community-

Supported Agriculture) socioeconomic business model to sustainable seafood production and consumption. The new model would connect the fishermen and fish farmers directly with consumers and allow the latter to subscribe to the harvest of seafood products (a weekly or bi-weekly box of produce) and share the risks of fisheries and fish farming. In this way, it would support local markets and strengthen the sense of community.

The cluster underlined the urgency for change of seafood consumption habits and it implied the capacity of the general public to use their purchasing power to change systems and structures that undermine the vision and new ways of producing and consuming seafood. It addressed the Sustainable Development Goal 12 - *Ensure sustainable consumption and production patterns*.

The **Education – Awareness** (Fig.3) was the second important cluster (C1) with the total number of 15 votes and 2,5 votes/action and 5 RRI dimensions/action in average. It included 6 actions targeting the public at large and that were primarily dedicated to Science Education in sustainable development and marine resources management as a critical part of local culture and coastal tourism. They were: World Ocean Day celebration, Mr.Goodfish and Citizen of the Ocean programmes, seafood festivals, educational walks, debates, exhibitions and workshops. The education of young people was a strong theme within the cluster with key components such as: school holiday programmes, beach cleanings, waste-art workshops and exchange programs with foreign schools combining local seafood tastings and meeting local communities.

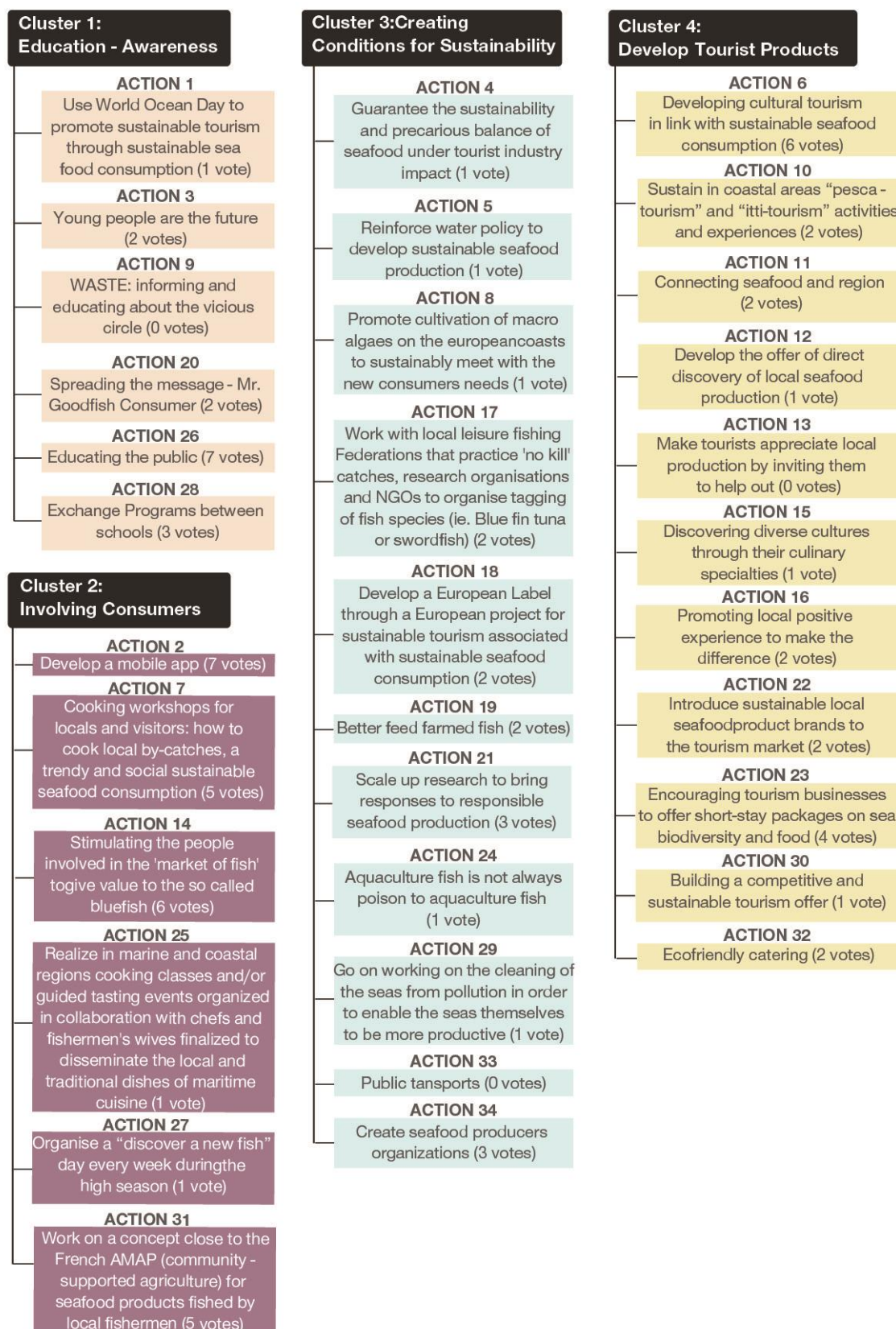


Fig.3. Clusters assembled by the participants of the international MML workshop in Boulogne sur Mer, France

Cluster 4 – **Develop Tourist Products** (Fig.3) received 23 votes and had 11 actions allocated, i.e. 2,09 votes/action and 4,6 RRI dimensions/action in average. The common theme in the cluster was the

development of a tourist offer based on local cultural assets including seafood gastronomy and the involvement through cooperation of diverse stakeholder groups: business and industry to develop a coherent tourist experience offer, marine and social research to suggest sustainable seafood products that would meet the increasing tourism demand and preserve local cultural heritage, as well as local and national authorities to support the tourism market with efficient legislation. The cluster assembled specific, measurable and assignable actions that related to stakeholder and Public Engagement such as “pesca-tourism” (excursions on board of a small fishing boat to live a fishery experience), “itti-tourism” (a stay at a fishermen’s house to enjoy traditional regional seafood specialties and learn about the traditions and culture of the local community), guided tours of aquaculture farms combined with fishing and cooking experience, local seafood brands, short stay packages combining encounters with fishermen and seafood cooking lessons, guided tours of fish markets and fish auctions, eco-friendly catering at hotels and seafood street trucks...

The **Creating Conditions for Sustainability** cluster 3 (Fig.3) obtained 17 votes and assembled 11 actions with 1,54 votes/action and 4,2 RRI dimensions/action in average. This cluster contained the actions that were intended to lay foundations for other initiatives and to face the challenges inherent to tourism as a source of pressures and a driver of economic growth on a long term. Aquaculture emerged as the strongest theme and solution to guarantee not only the precarious balance of seafood under tourist industry impact but also to address the Sustainable Development Goal 2 - *End hunger, achieve food security and improved nutrition*. Other actions called for reinforcement of water policies and fighting marine pollution to guarantee the productivity of the sea in terms of seafood, scaling up research in marine, social and marketing domains to improve seafood farm yield and productivity, creating a European label of sustainable tourism and seafood and setting up seafood producer organisations.

The cluster 3 addressed the RRI dimensions of Sustainability, stakeholder and Public Engagement and Governance.

### 5.7 Mapping influences and building a roadmap

The mapping process consisted of comparing two actions at a time and deciding by a vote whether an action would significantly help to achieve another one. The process was assisted by software and, as a result, an influence map was produced (Fig.4). The roadmap comprised 4 levels and included the actions that had the capacity to influence others or the achievement of which depended on the impact of other actions rather than the actions that had received the greatest number of votes in the previous workshop stages.

The actions at the bottom level 4 (L4) sustained the achievement of the actions at upper levels up to the ultimate level 1 of *Educating the general public* (Acton 26, Cluster 1, Level 1) in their individual role in conservation and sustainability with the ultimate goal of changing consumption and production patterns. In the previous stages, the participants had ranked this action as one of two most important ones and had given it 7 votes.

The three bottommost actions: *Scale up research to bring responses to responsible seafood production* (A21, C3, L4), *Create seafood producer organisations* (A34, C3, L4) and *Public transports* (A33, C3, L4) at level 4 (L4) belonged to the cluster *Creating Conditions for Sustainability* (C3) which, as indicated in the previous section, laid foundations for other initiatives even though the average number of votes per action in this cluster was the smallest. The actions of the cluster 3 were the most numerous in the roadmap.



The five actions at level 3 (L3) came from the clusters *Education-Awareness* (C1), *Involving Consumers* (C2) and *Creating Conditions for Sustainability* (C3), whereas at level 2 (L2) two actions: *Stimulating the people involved in fish market to give value to the so called “blue fish,”* (A14, C2, L2) and *Cooking workshops for locals & visitors: how to cook local by-catches, a trendy & social sustainable seafood consumption* (A7, C2, L2) belonged to the cluster *Involving Consumers* (C2), and three actions: *Developing cultural tourism in link with sustainable consumption* (A6, C4, L2), *Connecting seafood & region* (A11, C4, L2), and *Encouraging tourism businesses to offer short stay packages on sea biodiversity and food* (A23, C4, L2) were initially included in the cluster *Develop Tourist Products* (C4). The association of the clusters 2 and 4 at level 2 seems only natural because consumer involvement is the state of mind that motivates them to make a purchase, or in other words, the extent of importance that a consumer attaches to a product or service. Thus products and services that increase degree of involvement have a significant effect on the consumer behaviour.

It is worth noting that the action *Create seafood producer organisations* added by the participants during the workshop (A34, C3, L4), heavily influenced two actions at level 3 (L3): the development of a European label for sustainable tourism and seafood (A18, C3, L3) and the implementation of the CSA socioeconomic model in fisheries and aquaculture (A31, C2, L3), which in turn stimulated both the fish market actors by giving value to less known species (A14, C2, L2) and the seafood consumers by teaching them how to cook by-catches and changing their state of mind regarding the less noble species that had become trendy (A7, C2, L2) at level 2. This contributed to reaching the level 1 and the ultimate goal of educating the public to change their consumption pattern (A26, C1, L1).

Scaling up research in marine, social and marketing domains (A21, C3, L4) supported the need for water policy reinforcement (A5, C3, L3). Improved water quality was essential to developing tourist products and services that would attract new visitors, enhance local seafood and culinary traditions and true local experiences on the sea and by the sea (A6, A11, A23, C4, L2), and finally contribute to sustainable consumption and production (A26, C1, L1).

The roadmap indicates a strong need for educating the public at large (A26, C1, L1) in their individual role in marine conservation and sustainability (Public Engagement, Science Education). Even though there are strong influences among actions and levels, the roadmap can be taken up at any point and several actions can take place simultaneously on several levels.

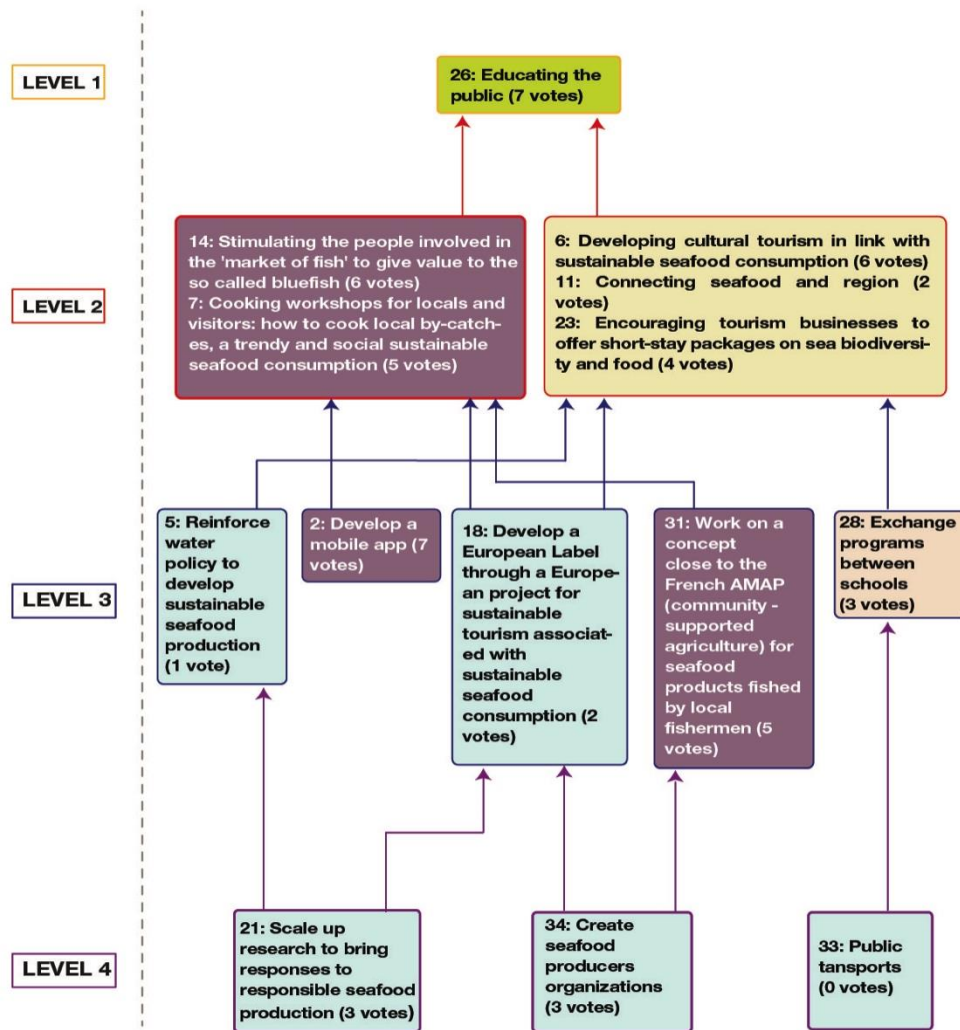


Fig.4. Final roadmap produced by the participants of the international MML workshop in Boulogne sur Mer, France

## 5.8 Developing SMART action plans

The elaboration of SMART action plans was the last phase of the workshop. The participants worked in four groups. Each group was in charge of developing two SMART action plans by describing how two actions from the roadmap can be implemented. The eight actions chosen for the SMART action plans came from the levels 4 and 3 of the roadmap:

1. Develop a mobile app (A<sub>2</sub>, C<sub>2</sub>, L<sub>3</sub>, V<sub>7</sub>)
2. Implement the CSA socio-economic model to seafood production and consumption (A<sub>31</sub>, C<sub>2</sub>, L<sub>3</sub>, V<sub>5</sub>)
3. Create seafood producer organisations (A<sub>34</sub>, C<sub>3</sub>, L<sub>4</sub>, V<sub>3</sub>)
4. Exchange programmes between schools (A<sub>28</sub>, C<sub>1</sub>, L<sub>3</sub>, V<sub>3</sub>)
5. Scale up research to bring responses to responsible seafood production (A<sub>21</sub>, C<sub>3</sub>, L<sub>4</sub>, V<sub>3</sub>)
6. Develop a European label for sustainable tourism and seafood consumption (A<sub>18</sub>, C<sub>3</sub>, L<sub>3</sub>, V<sub>2</sub>)
7. Reinforce water policies (A<sub>5</sub>, C<sub>3</sub>, L<sub>3</sub>, V<sub>1</sub>)
8. Develop efficient public transports (A<sub>33</sub>, C<sub>3</sub>, L<sub>4</sub>, V<sub>0</sub>)

Consequently, eight SMART action plans were proposed. Every action plan has a high potential to become an individual project that can be carried out by the concerned stakeholders.

At the end of the workshop each group presented their results to the rest of the workshop participants.

The first SMART action plan elaborated on how to develop a mobile application, the action put forth by a science communicator obtaining 7 votes (A2, C2, L3, V7). It was based on a market research on potential target audience and their needs, promotion of the project to the potential target groups, research on costs and a test phase. Except for the feasibility market research that was estimated to take a year, no other time specifications were given.

## Develop a mobile app (A2, C2, L3, V7)

S	M	A	R	T
<b>Specific</b> (What is the specific explication of the action?)	Is the implementation of this action <b>Measurable</b> ? How?	Is the implementation of this action <b>Assignable</b> ? Who is doing this?	Is the implementation of this action <b>Realistic / Relevant</b> ? Why?	Is the implementation of the action <b>Time-bound</b> ? When? How long will it take to complete it?
<b>Set up a framework: target audience, content, design (who would use it, how would they use it)</b>	Desk research to identify potential targets. Survey about what information will be useful to users. Qualitative interviews/surveys on user habits	NGO, CSO, business company, educational centres, research centres	Any organisation can create a phone application	Yes One year
<b>Meet with stakeholders about the idea: consumers and people who sell fish to tell them</b>	Identify stakeholders (fish vendors, supermarkets, any fish business). Identify number of stakeholders. Identify best communication techniques Number of meetings/conferences	NGO, CSO, business company, educational centres, research centres	Meetings/conferences can be held to inform people concerned and to get first impression about how the idea is received	Not specified
<b>Research on cost and market demand and find out how many people would use the application</b>	Investigation of costs (for functions that will be needed in such an app). Calculate how many people will use it and how much they are ready to pay for the app	NGO, CSO, business company, educational centres, research centres	Yes	Not specified
<b>Set up a team: designer, budget manager; programmer</b>	Identify collaborators (existing connections or calls). Number of feedbacks	NGO, CSO, business company, educational centres, research centres	Yes	Not specified
<b>Test phase</b>	Number of people who downloaded the app. Number of functions working well/not working well (identify causes). Number of times people have actually used the app to identify fish. Survey on user satisfaction. Feedback on improvements	NGO, CSO, business company, educational centres, research centres	Yes	Not specified

<b>Start a promotional campaign on social media</b>	Number of posts on social media. Number of mobile users who uploaded the app. Create a website and count number of people who visited it and number of downloads. Create work team that promotes the app at events and count number of promotional media where it was distributed etc.	NGO, CSO, business company, educational centres, research centres and specialised PR teams	Yes	Not specified
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Fig.5. SMART action plan 1 proposed by the participants of the international MML workshop, Boulogne sur Mer, France

The second SMART action plan sought to put in place the alternative model of community-supported fisheries and aquaculture (A31, C2, L3, Fig.6) modelled on the pre-existing civic agriculture where in return for subscribing to a harvest, subscribers would receive weekly a basket of fish coming from sustainable fisheries and aquaculture including by-catch. The project would require funding and the Foundation of Albert II of Monaco might be a potential sponsor. It would also necessitate the involvement of fishermen, thus an organisation of seafood producers (the subject of the following SMART action plan) would become very helpful in mobilising these professionals. The participants did not specify the time framework. However, it was made understood that the feasibility study was underway when the idea was suggested by a representative of a CSO and obtained 5 votes.

<b>Work on a concept close to the French AMAP (CSA - community-supported agriculture) for seafood products fished by local fishermen (A31, C2, L3, V5)</b>				
<b>S</b>	<b>M</b>	<b>A</b>	<b>R</b>	<b>T</b>
<i>Specific (What is the specific explication of the action?)</i>	<i>Is the implementation of this action <b>Measurable</b> ? How?</i>	<i>Is the implementation of this action <b>Assignable</b> ? Who is doing this?</i>	<i>Is the implementation of this action <b>Realistic / Relevant</b> ? Why?</i>	<i>Is the implementation of the action <b>Time-bound</b>? When? How long will it take to complete it?</i>
<b>Identify the need for fish baskets (carry out a market study) to implement the CSA model for sustainable seafood production and consumption</b>	Survey: the outcomes of market study would be measurable: How many people would want it? How much would they be willing to pay? How many producers would be needed to meet the needs? What would the costs for an online platform be? Who do we want to target with the online platform? What design? What offers? How many people can be reached?	Any interested stakeholder (citizens, companies, research institutes, fishermen, seafood farmers etc.); available budget of advantage as market study costs. Start up with two or three people and work on a platform.	It already exists in Paris. The idea can be adapted to work on something similar in a different area.	Not specified

<b>Find funding – raise funds Get in touch with the Foundation Prince Albert II de Monaco</b>	Amount of funding, in-kind support obtained	Any interested stakeholder (citizens, companies, research institutes, etc.)	The Sponsors, EU, etc. exist. The Foundation Prince Albert II de Monaco is engaged in promoting sustainable consumption	Not specified
<b>Gather all participating fishermen (organization of producers might be helpful)</b>	Identify them, identify methods to contact them and to bring them together; count number of participants.	Any interested stakeholder (citizens, companies, research institutes, etc.)	Possible if appropriate incentives are found for participating fishermen	Not specified
<b>Find customers</b>	Survey. Identify the potentially interested consumers, their needs, characteristics, and lifestyle. Identify consumer sectors so as to be able to reach out to them with marketing tools. Number of contacted consumers	Any interested stakeholder (citizens, companies, research institutes, etc.)	Yes	Not specified
<b>Marketing and communication</b>	Number and cost of marketing campaigns (online, social media, other...), the ratio of number of contacted consumers and the number of consumers who buy the baskets/month/year activities; ROI Number of dissemination activities	Marketing team of any interested stakeholder organisation (citizens, companies, research institutes, etc.)	Yes	Not specified
<b>Launch production – Gather all participating fishermen (organization of producers might be helpful)</b>	Numbers of baskets prepared, number of deliveries, number of households, number of fish species sold, number/scope of areas of delivery; survey on consumer satisfaction	Those who prepare and deliver baskets (delivery companies; by bike, by car, etc.)	It already exists in Paris and known methods and techniques could be taken over from this existing concept	Not specified

Fig.6. SMART action plan 2 proposed by the participants of the international MML workshop, Boulogne sur Mer, France

The purpose of the third action plan was to create seafood producer organisations (A34, C3, L4, Fig.7), the idea of which had been suggested by a CSO representative and received 3 votes. This action plan relied on assembling seafood producers in an area and co-creating common positioning, mission, values and branding with them. The action plan did not specify the number of organisations that would be created nor their geographical location but the participants agreed on a five-year time framework.

Create seafood producer organizations (A34, C3, L4, V3)				
S	M	A	R	T
<i>Specific (What is the specific explication of the action?)</i>	<i>Is the implementation of this action <b>Measurable</b> ? How?</i>	<i>Is the implementation of this action <b>Assignable</b> ? Who is doing this?</i>	<i>Is the implementation of this action <b>Realistic / Relevant</b> ? Why?</i>	<i>Is the implementation of the action <b>Time-bound</b>? When? How long will it take to complete it?</i>
<b>Meet various producers and explain to them the benefits; they have to create a local value and they can have a voice in the region</b>	Identify regional producers. Number of producers interested. Invite them. Number of answered invitations	Regional producers;	Identify producers online, by asking locals (snowball technique)	5 years
<b>Create a common positioning &amp; branding which are recognizable for tourists and consumers; e.g. you see a product and you know which value is attached to it</b>	Analysis of current different visions (qualitative interviews, surveys). Find a common vision through activities (number of people attending workshops, meetings, number of activities/workshops; a brand with a logo, positioning, mission statement, payoff/baseline, etc.)	Any stakeholder who would like to get engaged	Set up meetings and create a common vision (workshops, World Cafés, etc.)	5 years
<b>Professionals in the field taking part in the organization</b>	Number of professionals in the field taking part in the organization (this is easier to measure than the added value). Number of members, participating organisations, amount of collected fees	Any stakeholder who would like to get engaged	Because European funds exist and if we can convince the fishermen it will be possible to do it. However, it is difficult because there is a lot of competition between this kind of professionals	5 years

Fig.7. SMART action plan 3 proposed by the participants of the international MML workshop, Boulogne sur Mer, France

The idea of the fourth SMART action plan Exchange programmes between schools (A28, C1, L3, Fig.8) had been put forth by a citizen and scored 3 votes. The key motivation behind it was to engage young people from 12 to 24 years old in the stewardship of marine environment. This would be done by school trips to coastal areas where the pupils would get the possibility to discover local cultural traditions including gastronomy and in particular seafood, meet local people, fishermen, visit aquaculture farms to learn about maritime jobs and the living resources. The participants agreed that this action plan should be put in place as part of school curricula at all education levels, involve teachers with financial support from the EU.

Exchange programmes between schools (A28, C1, L3, V3)				
S	M	A	R	T
<i>Specific (What is the specific explication of the action?)</i>	<i>Is the implementation of this action <b>Measurable</b> ? How?</i>	<i>Is the implementation of this action <b>Assignable</b> ? Who is doing this?</i>	<i>Is the implementation of this action <b>Realistic / Relevant</b> ? Why?</i>	<i>Is the implementation of the action <b>Time-bound</b>? When? How long will it take to complete it?</i>
<p><b>Define educational content to:</b></p> <ul style="list-style-type: none"> <li>• address pupils from 12 to 24 years old,</li> <li>• enrich the courses/curricula of every school level</li> <li>• engage teachers and educational programs</li> <li>• bridge economic development (thanks to sustainable tourism) with seafood products</li> <li>• meets the needs and the values of schools, how to live together, how to increase the quality of life together</li> <li>• contribute to the overall education of the pupils, stewardship of the marine environment,</li> <li>• implement active citizenship respectful of the environment</li> </ul>	<p>Qualitative interviews/surveys with teachers and educators to get to know school systems and framework, to find out the needs, expectations and values of the educational sector, to find out what new knowledge and value the school can take from such an exchange and what value they could give in return.</p> <p>Number of trips and participants Number of environmental activities that can bring value. Survey on pupil's interests and knowledge gaps regarding the environment Number of teachers available and number of pupils interested. Number of suitable educational actions that could realistically be done Number of teachers involved. Number of pupils involved and the number of educational actions (providing that a trip is an educational action)</p>	<p>Schools with the appropriate infrastructure</p>	<p>School trips are activities regularly done in schools everywhere It might be complicated to put in place first but if pupils are involved in the creation process their wishes and expectations will be easy to respect and will be met during the exchange programme afterwards</p>	<p>Trips once a year every year</p>
<p><b>Establish a cost breakdown:</b></p> <ul style="list-style-type: none"> <li>• the budget should be framed within the school budget</li> <li>• involve an additional cost for a coordinator, eventually costs for the teachers that are involved as trainers (one volunteer that trains other teachers),</li> <li>• cost of trips</li> <li>• find co-funding</li> </ul>	<p>Budget available. Maximum amount that parents are willing to contribute. Costs for a coordinator</p>	<p>Teachers in schools, extern coordinator, budget manager</p>	<p>Funding by EU possible (e.g. ERASMUS programmes), funding institutions or other sponsors</p>	<p>Not specified</p>

Fig.8. SMART action plan 4 proposed by the participants of the international MML workshop, Boulogne sur Mer, France



The fifth SMART action plan sought to scale up research to address the challenges of a responsible seafood production (A21, C3, L4, Fig.9). Suggested by a researcher, it had obtained 3 votes and tackled the need for research that was expressed during the workshop on several occasions – the research on sustainable consumption needs and patterns, the most efficient aquaculture techniques and feeds, the propensity of local communities to reconvert to new economic activities and effective legislations. The action plan accounted for the knowledge transfer to business and industry and relied on EU funding schemes. No specific timeframe was given.

<b>Scale up research to bring responses to responsible seafood production (A21, C3, L4, V3)</b>				
<b>S</b>	<b>M</b>	<b>A</b>	<b>R</b>	<b>T</b>
<i>Specific (What is the specific explication of the action?)</i>	<i>Is the implementation of this action <b>Measurable</b> ? How?</i>	<i>Is the implementation of this action <b>Assignable</b> ? Who is doing this?</i>	<i>Is the implementation of this action <b>Realistic / Relevant</b> ? Why?</i>	<i>Is the implementation of the action <b>Time-bound</b>? When? How long will it take to complete it?</i>
<b>Find funding (European Union). Researchers need money to finance research</b>	Amount of money raised	Any stakeholders or researchers contacting funding institutions or sponsors	Funding by EU possible (e.g. Project calls), by funding institutions or by other sponsors	Not specified
<b>Make a call for proposal addressing research centres (fishing, aquaculture, Ifremer/INRA)</b>	Number of contact calls made and number of responses received. Number of research centres interested	Any stakeholder can contact research centres and find interested researchers	Any stakeholder can contact research centres and find interested researchers	Not specified
<b>Identify researcher teams to work on this call in 3 research areas: wild fish, aquaculture of fish and shellfish Organise meetings/conferences to unite them</b>	Number of researchers that work together. Number of meetings/conferences to unite them	Researchers that work together	Collaboration between research centres exists already or can be established. Collaboration can strengthen relationships between researchers and facilitate research work	Not specified

<b>Collect information on the research areas and pass it on to education centres universities, schools and business/industry</b>	Surveys on interests of education centres. Investigation of how research knowledge can fill knowledge gaps of education centres. Find effective ways/Knowledge transfer methods to transfer the knowledge from research institutions to educational centres (theme days, workshops, events, etc.) and measure the knowledge transfer	Researchers, universities, education centres, etc. who work together	Possible if Knowledge Transfer methods have been established and are working	Not specified
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Fig.9. SMART action plan 5 proposed by the participants of the international MML workshop, Boulogne sur Mer, France

The development of a European label for sustainable tourism and seafood consumption had come from a NGO representative and received 2 votes (A18, C3, L3, Fig.10) and was the basis of the SMART action plan 6. The action plan was based on several steps: the qualitative market study to identify stakeholders and their needs, benchmarking, defining label specifications in collaboration with the identified stakeholders, auditing and certifications, promotion of the label and fund raising for the implementation of the entire project to be carried out in a five-year long timeframe.

<b>Develop a European label through a European project for sustainable tourism associated with sustainable seafood consumption (A18, C3, L3, V2)</b>				
<b>S</b>	<b>M</b>	<b>A</b>	<b>R</b>	<b>T</b>
<i>Specific (What is the specific explication of the action?)</i>	<i>Is the implementation of this action <b>Measurable</b> ? How?</i>	<i>Is the implementation of this action <b>Assignable</b> ? Who is doing this?</i>	<i>Is the implementation of this action <b>Realistic / Relevant</b> ? Why?</i>	<i>Is the implementation of the action <b>Time-bound</b>? When? How long will it take to complete it?</i>
<b>Start with a qualitative study to identify stakeholders in tourism and sustainable seafood and their needs for this label</b>	Qualitative and quantitative interviews with key actors including consumers. Benchmarking. Identify target profile and estimate how many people would be targeted	Any interested stakeholder	Yes	1 year
<b>Unite stakeholders and define label specifications with their collaboration: What types of activities do we judge as sustainable? Which are the criteria that you need to meet in order to obtain the label?</b>	Qualitative interviews on expectations/requirements/values and quantitative survey to validate/invalidate; number of activities/focus groups/workshops/meetings and number of people engaged; (World Cafés, other workshop methods) Terms of Reference/Specifications for the label are written	Any interested stakeholder	Qualitative analysis of interviews and workshop outcomes help explore the expectations and needs of target actors Terms of Reference will specify the most relevant features	1 year

<p><b>Obtain feedback from different actors in terms of the added value of the label, the number of concerned actors (who would be interested and who is already involved in such activities), the number of volunteers or non-volunteers to have the label.</b></p> <p><b>Assess the added value every year</b></p>	<p>Feedback survey on the label idea. Qualitative interviews/focus groups/workshops on what suggestions stakeholders make. Number of different stakeholders (stakeholder range)</p>	<p>Any interested stakeholder</p>	<p>Qualitative analysis of interviews</p>	<p>Assessment every year: qualitative interviews/focus groups/workshops every year to register changing wishes or behaviours</p>
<p><b>Increase stakeholder motivation to take up the label</b></p> <p><b>A label is an added value for the local economical actors and it would be a good defence for them against bad practices so the label would value what is sustainable and put these actors forward so that they have a good image.</b></p>	<p>Estimation of value (register data of other examples). Surveys on stakeholder motivation/satisfaction</p>	<p>Any interested stakeholder</p>	<p>Because the needs for added value and product identification, sustainability as well as transparency gain more and more importance throughout the EU and influence consumer satisfaction</p>	<p>Not specified</p>
<p><b>Find funding for the feasibility study, (benchmarking, and stakeholder mapping) to be carried out by at least one person in a year and for 2 year launch of audit &amp; research</b></p>	<p>Amount of money raised. Number of people working in order to raise money The feasibility study</p>	<p>Any stakeholders or researchers contacting funding institutions or sponsors</p>	<p>Any stakeholders or researchers contacting funding institutions or sponsors</p>	<p>About 5 years to launch the audit, research and stakeholder mapping (including 1 year study and 2 years for launch)</p>
<p><b>An audit or certification organism would be needed (Ecocert), promotional adds</b></p>	<p>Outcome of assessments. Number of dissemination activities (promotional adds)</p>	<p>Any interested stakeholder</p>	<p>Auditing is necessary</p>	<p>2 years</p>

Fig.10. SMART action plan 6 proposed by the participants of the international MML workshop, Boulogne sur Mer, France

The seventh SMART action plan intended to reinforce water policies (A5, C3, L3, Fig.11). The background idea had been suggested by a CSO representative and obtained 1 vote. The key outcome of this action plan would be the implementation of the “polluter pays” principle, i.e. making the party responsible for producing pollution bear the costs of managing it to prevent damage to human health and environment. The action plan was based on the stakeholder dialogue and collaboration, the research on the existing water policies at European, national and local levels that would need reinforcing and the involvement of research institutes and laboratories to measure water quality on a regular basis. The plan did not mention the involvement of national and European legislative systems to endorse and impose the reinforced regulations. The participants agreed that a twenty-year timeframe would be necessary until the first results could become noticeable.

Reinforce water policy to develop sustainable seafood production (A5, C3, L3, V1)				
S	M	A	R	T
<b>Specific</b> (What is the specific explication of the action?)	Is the implementation of this action <b>Measurable</b> ? How?	Is the implementation of this action <b>Assignable</b> ? Who is doing this?	Is the implementation of this action <b>Realistic / Relevant</b> ? Why?	Is the implementation of the action <b>Time-bound</b> ? When? How long will it take to complete it?
Carry out desk research on policies and identification of stakeholders concerned; There are policies at European, national and sometimes local scales. They can be reinforced by involving all professional and non-professional people who can have an impact on water quality: agriculture, industries, leisure activities, fishermen, aquaculture farmers	Number of stakeholders identified (cluster, organizations, etc.)	Anyone, all kind of stakeholders	Policies do exist and can be identified; people do often have a direct impact on the water quality and therefore the subject is concrete and easy to understand	Not specified
Involve every economic actor and not only water-related actors	Number of stakeholders contacted and number of stakeholders interested	Anyone, all kinds of stakeholders	Difficult but possible; all sectors that are known to have an impact on water quality have to be informed	Not specified
Identify and respect objectives and reinforce them on a long-term	Number of regulations; identify and count options to reinforce them	Anyone, all kind of stakeholders	Realistic if the demand is clear and the objectives are concrete	20 years before having a result; 20 years to reinforce objective
Implement a “polluter pays” principle	Measure the amount of harmful substances in water and count the amount of money paid to recompense Measurable factors: nitrates and other pollutions	Polluter Research institutes, laboratories to measure quantities of substances in water	Realistic financially. “Polluter pays” system exists already and is effective. However, it’s difficult because nobody wants to pay for pollution so it’s not easy to involve actors It is realistic because it can be measured and the impacts of these substances on the environment are known	More than 20 years to reinforce policies

Fig.11. SMART action plan 7 proposed by the participants of the international MML workshop, Boulogne sur Mer, France

The final SMART action plan sought to develop efficient public transports (A33, C3, L4, Fig.12). The initial action had come from a business representative and it did not score any votes. Its purpose was to put in place an efficient public transportation that would serve both local populations and tourists and give them access to the infrastructure of the area. This action plan responded to the challenge of the urbanisation of coastal areas.

Public transports (A33, C3, L4, V0)				
S	M	A	R	T
<i>Specific (What is the specific explication of the action?)</i>	<i>Is the implementation of this action <b>Measurable</b> ? How?</i>	<i>Is the implementation of this action <b>Assignable</b> ? Who is doing this?</i>	<i>Is the implementation of this action <b>Realistic / Relevant</b> ? Why?</i>	<i>Is the implementation of the action <b>Time-bound</b>? When? How long will it take to complete it?</i>
<b>Investigate the situation during high and low season to see the impact of tourism, what exists, what is needed, what the demand is and research all possibilities according to the situation</b>	Number of local transport systems and vehicles. Number of people using transport system. Survey to find out about users' demands. Tickets sold; tickets validated; vehicle drives, etc.	NGOs, CSOs	Data like this can be gathered regularly	Not specified
<b>Investigate the most ecological ways of transportation that are feasible and realistic</b>	Field investigation of eco-friendly possibilities in the respective city/village. Desk research to look at other examples that already exist and where conditions are the same	NGOs, CSOs	Research and existing facts and literature	Not specified
<b>Hand over the project idea to local authorities because it is them who will do something about it</b>	Identify responsible local authorities; number of authorities interested in the project	NGOs, CSOs Local authorities	If contacting authorities is possible and if they are interested in the idea	Not specified
<b>Gather proofs to support the demand. For non-local authorities it is hard to foresee the next steps</b>	Number of people approving the idea (survey)	NGOs, CSOs	Demand has to be proved before the project is handed over to the authorities; they need to understand the project and its benefits	Not specified

Fig.12. SMART action plan 8 proposed by the participants of the international MML workshop, Boulogne sur Mer, France

## 6 Sustainable tourism, seafood, management of marine living resources and Responsible Research and Innovation

### 6.1 How do the results relate to the RRI dimensions?

This section will analyse the actions suggested by the workshop participants in the framework of six priority dimensions of Responsible Research and Innovation: Public Engagement, Science Education, Open Access/Open Science, Gender Equality, Governance, Ethics, and two additional ones such as Sustainability and Social Inclusion/Justice as they have been defined by the European Commission<sup>3</sup>.

The participants had generated 34 ideas of actions from the very general to the very specific. These actions were classified according to the RRI dimensions after the workshop. Most of them (except one) related to several RRI dimensions. The graph below (Fig.13) takes into account this multidimensional status.

We have not included the SMART action plans in this analysis because these specific actions are intended to implement the main action that had already been attributed the RRI dimensions.

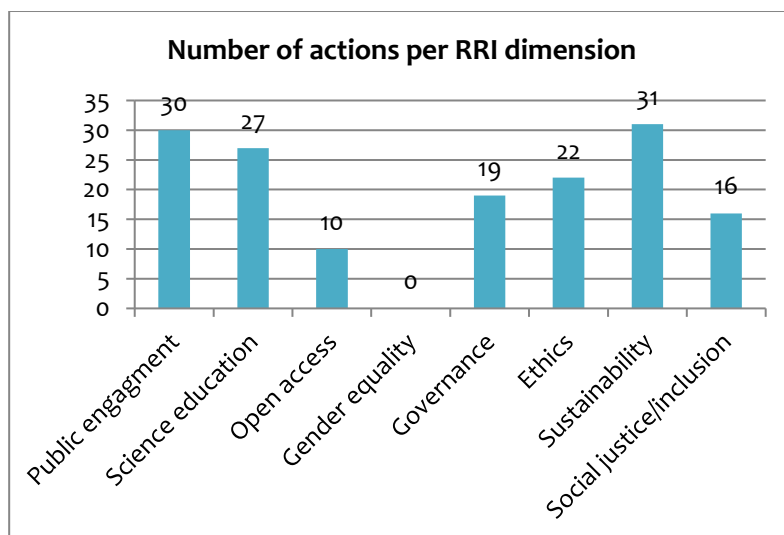


Fig.13. Number of actions per RRI dimension

Sustainability was the most common dimension that appeared in 31 actions. It was followed closely by Public Engagement (30 actions). Science Education came in the third place with 27 actions. The dimension of Governance was associated with 19 actions. No actions related directly to Gender Equality. The figure 14 below shows the attribution of the RRI dimensions to every action proposed by the participants during the workshop.

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<sup>3</sup> EU, Regulation No 1291/2013

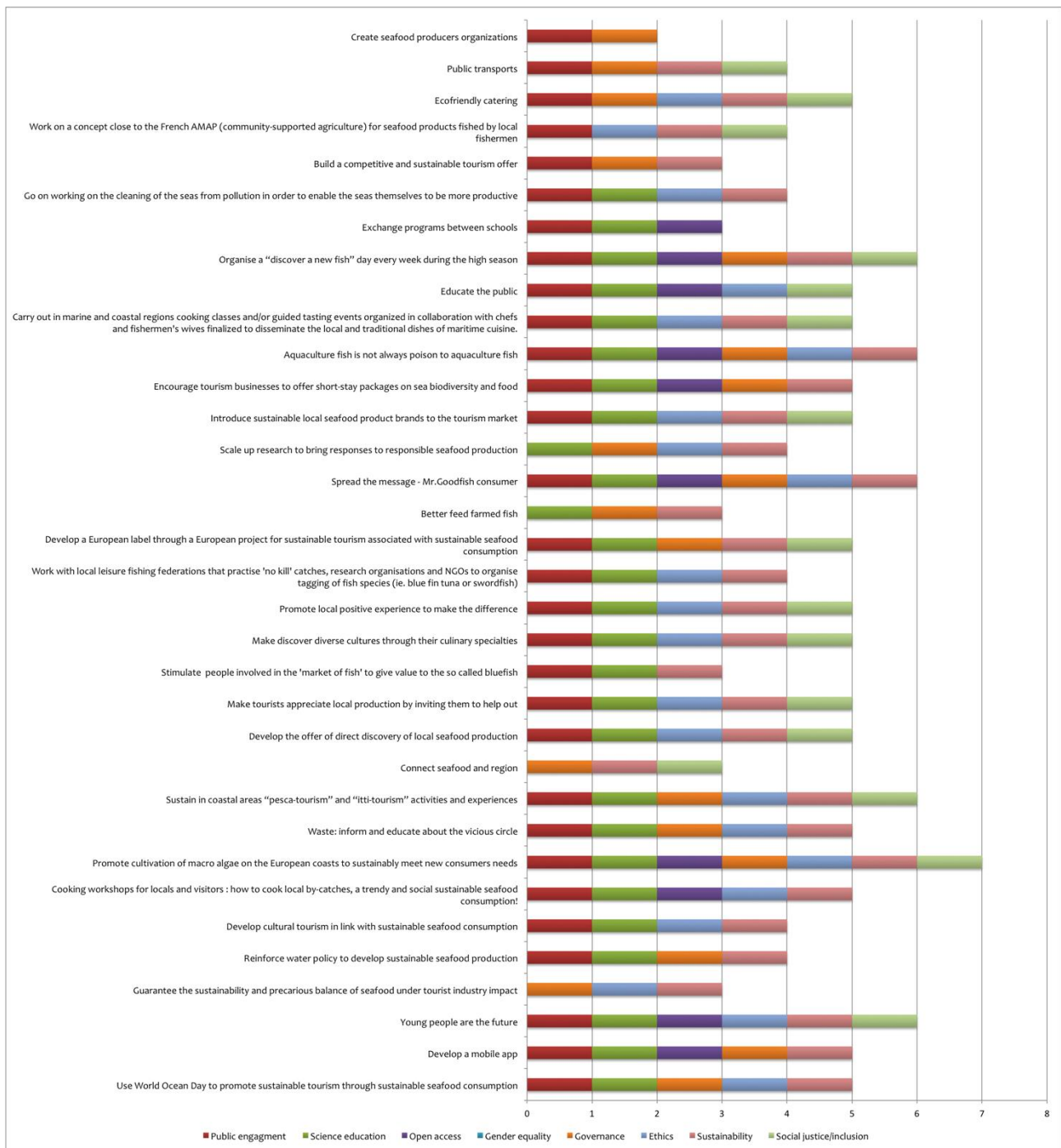


Fig.14. RRI dimensions per action

There were no actions related to only one RRI dimension. One action fell into two RRI dimensions, six were characterised by three RRI dimensions and seven related to four RRI dimensions. Fourteen actions linked with five RRI dimensions, five were associated with six dimensions and one action related to seven RRI dimensions. There were no actions associated with all eight RRI dimensions. Consequently, it appears that even though it was difficult to generate actions that would unite all the RRI dimensions, all actions had an RRI multidimensional aspect showing that in practice, the RRI dimensions were closely interlinked and did not exist in isolation.

The number of RRI dimensions per action was 4,6 in average, whereas the average number of RRI dimensions per cluster was 5 for C1-Education-Sustainability, 4,7 for C2-Involving Consumers, 4,6 for C4-

Develop tourist Products and 4,2 for C3 Creating Conditions for Sustainability. The roadmap had 3,7 RRI dimensions in average. The figure 15 below shows the percentage of the RRI dimensions per cluster and the final roadmap. The significant percentage of sustainability, public engagement and science education pinpoints the critical role that the general public and other stakeholders can and should play in maintaining healthy marine ecosystems while satisfying the economic and social needs of the European society in relation to tourism and seafood production and consumption. Science education is a means of empowering European citizens, business representatives, researchers and policy makers to take informed decisions while purchasing seafood and tourist services, to change consumption habits, to alter the production patterns of tourist products and services and to vote for and adopt European and national inclusive laws and regulations that protect the rights of the present and future generations.

The absence of gender equality reveals a critical gap in access to opportunities and resources and decision-making power for women and men.

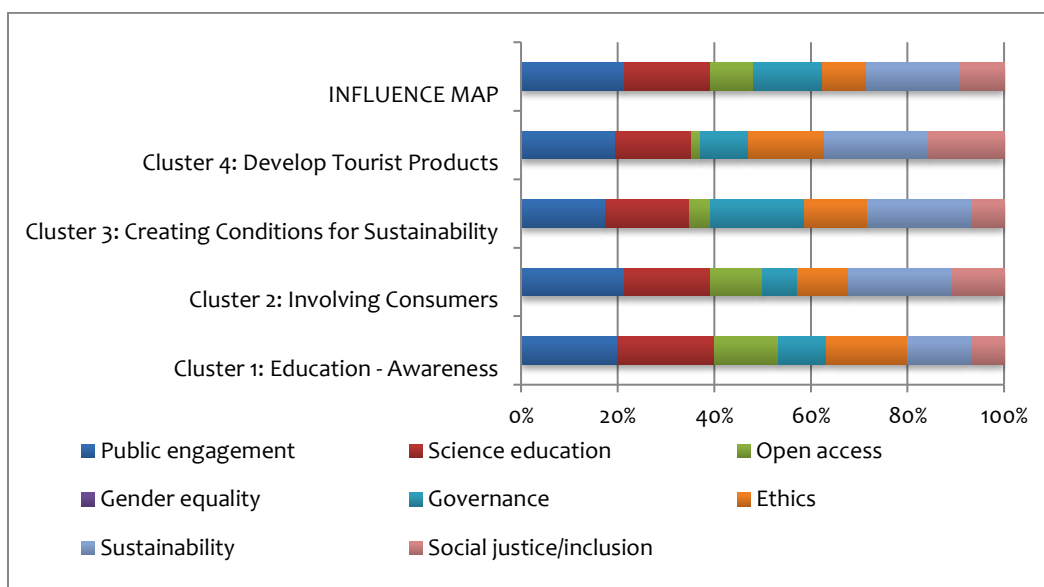


Fig.15. RRI dimensions (%) per cluster and influence map

The number of votes that each action had received was not proportional to the number of RRI dimensions it related to. In 26 cases the number of votes was asymmetrical to the number of the RRI dimensions that characterised the action, which is illustrated in the figure 16 below.



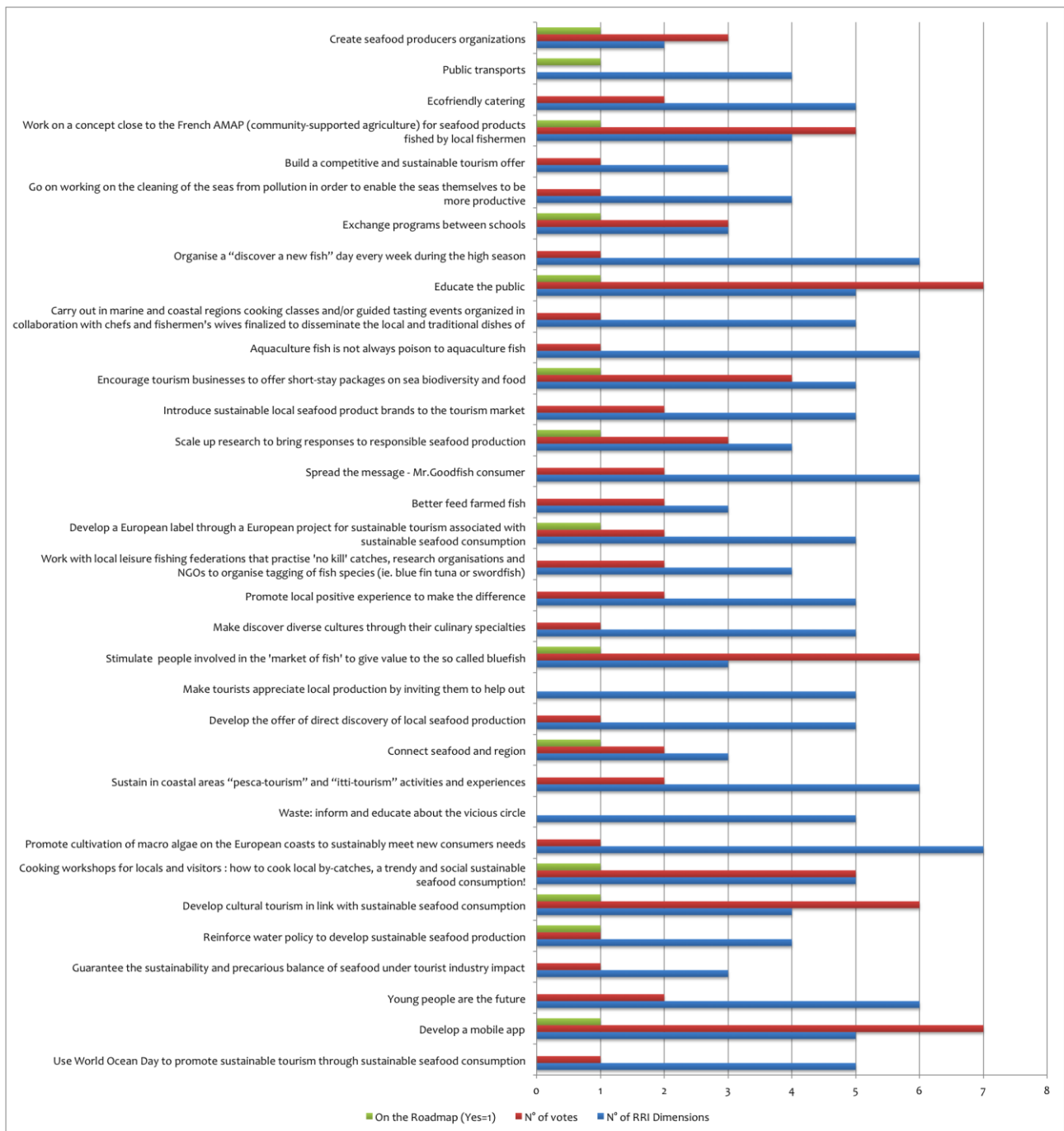


Fig.16. Number of votes, RRI dimensions and roadmap occurrence per action

There seemed to be no relation between the number of the RRI dimensions and the number of votes that the action had scored and its occurrence in the influence map, e.g. the action that had received no votes (*Public transports* - A33, C3, L4) was included in the influence map, whereas the action characterised by the highest number of RRI dimensions (*Promote cultivation of macro algae on the European coasts to sustainably meet the new consumers needs* - A8, C3, RRI 7 dimensions) did not find its way to the influence map (fig. 16). The average number of the RRI dimensions per action in the roadmap is 3,7, i.e. lower than the average number of the RRI dimensions per action (4,6).

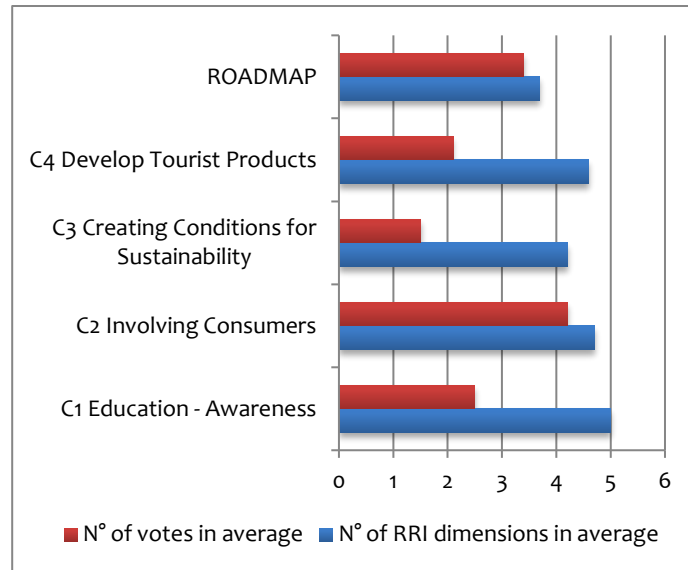


Fig.17. RRI dimensions and votes in average per clusters and influence map

The figure 18 below shows the number of actions that called for the involvement of each stakeholder group: the civil society (citizens/CSOs/NGOs), business/industry, researchers, policy-makers and other (mainly science communicators and journalists). The engagement of the business and industry sector was the most sought for the implementation of almost twice as many actions as other stakeholder groups. This goes in line with the overall character of the workshop relying significantly on two clusters C2 Involving consumers and C4 Develop tourist products.

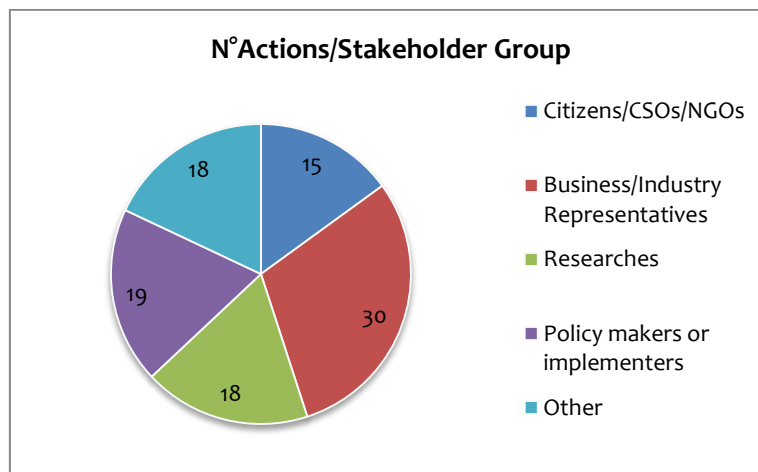


Fig.18. Number of actions per stakeholder group

The figure 19 below shows the stakeholder groups responsible for the implementation of the individual actions.

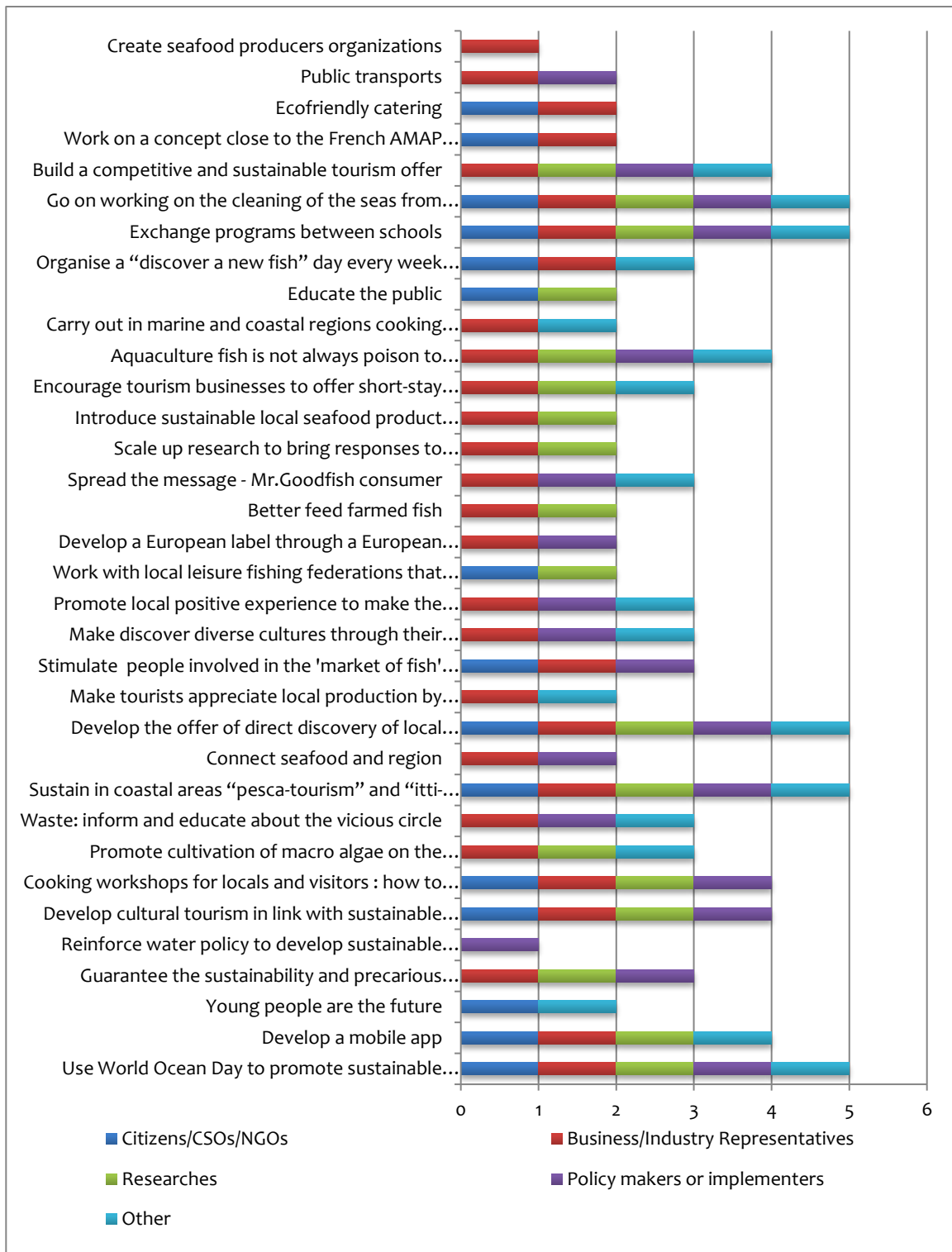


Fig.19. Stakeholder groups per action

Except for two actions: *Create seafood producer organisations* (A34, C3, L4, Votes 3) calling on business and industry and *Reinforce water policy to develop sustainable seafood production* (A5, C3, L3, V1) depending heavily on policy-making, all actions were collective and required collaboration of several stakeholder groups. Five actions required the involvement of all stakeholder groups in their implementation. They were: *Use World Ocean Day to promote sustainable tourism through sustainable seafood consumption* (A1, C2, V1), *Sustain in coastal areas "pesca-tourism" and "itti-tourism" activities and*

Experiences (A10, C4, V2), Develop the offer of direct discovery of local seafood production (A12, C4, V1), Exchange programs between schools (A28, C1, L3, V3), Go on working on the cleaning of the seas from pollution in order to enable the seas themselves to be more productive (A29, C3, V1). Only action A28 had been included in the final influence map, which indicated that even though those five actions required the collaboration and involvement of all stakeholder groups, the stakeholder groups considered them less influential to the achievement of the overall goal.

The figure 20 below presents the percentage of engagement of the stakeholder groups in clusters and roadmap. It confirms the prominent role of the business and industry in the implementation of the sustainable tourism and consumption whereas the role of researchers was in creating conditions for sustainability. The education and awareness raising relied significantly on science communicators, media, press and other information multipliers.

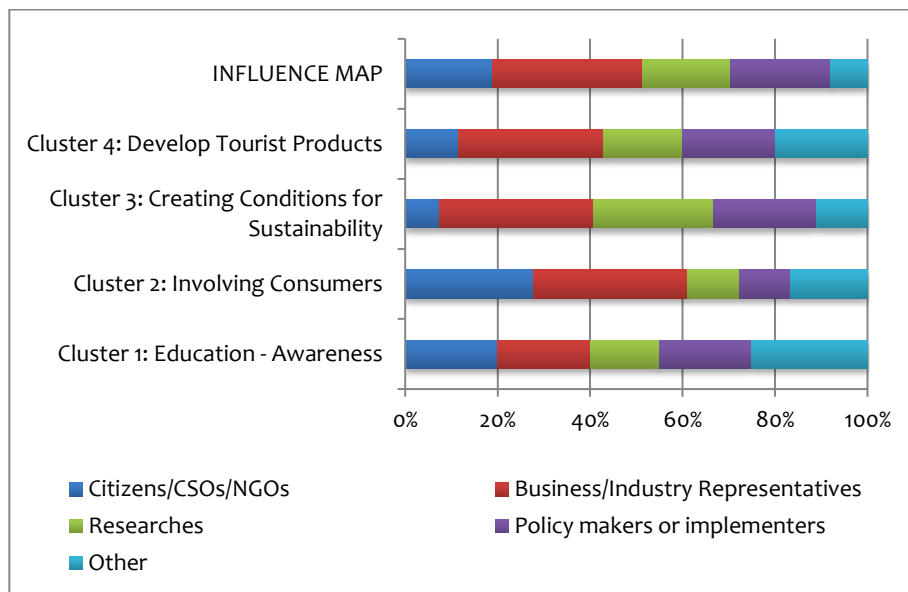


Fig.20. Stakeholder groups (%) per cluster and influence map

The results confirmed a strong need for reshaping the business model of maritime and coastal tourism in Europe and that Responsible Research and Innovation dimensions were an efficient framework for empowering all stakeholder groups to co-create sustainable value propositions that reflect societal needs and sustain healthy marine environments.

## 6.2 Public engagement

Public Engagement was a very significant dimension with 30 related actions including 11 on the roadmap.

N°	CLUSTER	ACTION	VOTES
<b>ACTIONS ON THE ROADMAP</b>			
2	2	Develop a mobile app	7
5	3	Reinforce water policy to develop sustainable seafood production	1
6	4	Develop cultural tourism in link with sustainable seafood consumption	6
7	2	Cooking workshops for locals and visitors: how to cook local by-catches, a trendy and social sustainable seafood consumption!	5
14	2	Stimulate the people involved in the 'market of fish' to give value to the so called bluefish	6
18	3	Develop a European Label through a European project for sustainable tourism associated with sustainable seafood consumption	2

23	4	Encourage tourism businesses to offer short-stay packages on sea biodiversity and food	4
26	1	Educate the public	7
28	1	Exchange programs between schools	3
31	2	Work on a concept close to the French AMAP (community-supported agriculture) for seafood products fished by local fishermen	5
34	3	Create seafood producer organization	3
<b>ACTIONS NOT INCLUDED IN THE ROADMAP</b>			
1	1	Use World Ocean Day to promote sustainable tourism through sustainable seafood consumption	1
3	1	Young people are the future	2
8	3	Promote cultivation of macro algae on the European coasts to sustainably meet the new consumers needs	1
9	1	Waste: informing and educating about the vicious circle	0
10	4	Sustain in coastal areas “pesca-tourism” and “itti-tourism” activities and experiences	2
12	4	Develop the offer of direct discovery of local seafood production	1
13	4	Make tourists appreciate local production by inviting them to help out	0
15	4	Make discover diverse cultures through their culinary specialties	1
16	4	Promote local positive experience to make the difference	2
17	3	Work with local leisure fishing federations that practice 'no kill' catches, research organisations and NGOs to organise tagging of fish species (i.e. Blue fin tuna or swordfish)	2
20	1	Spread the message - Mr.Goodfish consumer	2
22	4	Introduce sustainable local seafood product brands to the tourism market	2
24	3	Aquaculture fish is not always poison to aquaculture fish	1
25	2	Carry out in marine and coastal regions cooking classes and/or guided tasting events organized in collaboration with chefs and fishermen's wives to disseminate the local and traditional dishes of maritime cuisine	1
27	2	Organise a “discover a new fish” day every week during the high season	1
29	3	Go on with cleaning of the seas from pollution in order to enable the seas themselves to be more productive	1
30	4	Build a competitive and sustainable tourism offer	1
32	4	Eco-friendly catering	2

The change actions suggested by the participants were based on collaborations and partnerships of businesses, industry, research, policy and social and environmental actors. They aimed at developing innovative and sustainable products and services such as for example:

- by-catch cooking workshops (A7, C2, V5), cooking classes, tasting events (A25, C2, V1) and community supported seafood baskets to help discover and appreciate local culture, cuisine and environment (A31, C2, L3, V5),
- a mobile application and a European label of sustainable tourism to give customers the access to information about sustainable tourism practices that meet environmental and social standards and about the traceability of seafood (A2, C2, L3, V7). This would contribute to defining clear rules for seafood products traceability and their harmonisation on a European level.
- “pesca-tourism” and “itti-tourism” to provide customised experiences and engage local fishermen communities and small and medium enterprises (A10, C4, V2). Nowadays tourists are not only charmed by the beaches but also by culture and other activities that are offered on the coast and in the sea. They look for diversified offerings, e.g. coastal and inland transnational thematic itineraries such as cultural, or ancient trade routes and other synergies that local culture and nature can offer to them. However, the new trends such as seafood tourism must be carefully assessed and regulated in order not to create “easy” income at the expense of the marine ecosystems, and local communities and traditions;
- seafood producer organisations to federate professional institutions and in the area and to defend the rights of seafood professions (A34, C3, L4, V3). Maritime and coastal tourism suffers from knowledge gap and mismatch of skills and qualifications. Due to seasonality and lack of career opportunities, it is not attracting enough skilled personnel, which can lead to lowering service quality and impede competitiveness. The sector lacks well-qualified professionals who

are service-minded and speak several languages. It also lacks dynamic entrepreneurs to implement professional approaches and innovative management schemes (e.g. to capture the potential of tourists who can travel in low seasons) amongst local enterprises, administration and stakeholders.

- the improvement of water policies to guarantee attractive tourist offers and human well-being (A5, C3, L3, V1).

### 6.3 Science education

Twenty-seven actions including ten on the roadmap, related to marine Science Education making it another significant RRI dimension. A key tool to stakeholder engagement, capacity building, behavioural changes and production and consumption pattern shift, Science Education was a recurrent theme in the workshop.

N°	CLUSTER	ACTION	VOTES
<b>ACTIONS ON THE ROADMAP</b>			
2	2	Develop a mobile app	7
5	3	Reinforce water policy to develop sustainable seafood production	1
6	4	Develop cultural tourism in link with sustainable seafood consumption	6
7	2	Cooking workshops for locals and visitors: how to cook local by-catches, a trendy and social sustainable seafood consumption!	5
14	2	Stimulate the people involved in the 'market of fish' to give value to the so called bluefish	6
18	3	Develop a European Label through a European project for sustainable tourism associated with sustainable seafood consumption	2
21	3	Scale up research to bring responses to responsible seafood production	3
23	4	Encourage tourism businesses to offer short-stay packages on sea biodiversity and food	4
26	1	Educate the public	7
28	1	Exchange programs between schools	3
<b>ACTIONS NOT INCLUDED IN THE ROADMAP</b>			
1	1	Use World Ocean Day to promote sustainable tourism through sustainable seafood consumption	1
3	1	Young people are the future	2
8	3	Promote cultivation of macro algae on the European coasts to sustainably meet the new consumers needs	1
9	1	Waste: informing and educating about the vicious circle	0
10	4	Sustain in coastal areas “pesca-tourism” and “itti-tourism” activities and experiences	2
12	4	Develop the offer of direct discovery of local seafood production	1
13	4	Make tourists appreciate local production by inviting them to help out	0
15	4	Make discover diverse cultures through their culinary specialties	1
16	4	Promote local positive experience to make the difference	2
17	3	Work with local leisure fishing federations that practice 'no kill' catches, research organisations and NGOs to organise tagging of fish species (i.e. Blue fin tuna or swordfish)	2
19	3	Better feed farmed fish	2
20	1	Spread the message - Mr.Goodfish consumer	2
22	4	Introduce sustainable local seafood product brands to the tourism market	2
24	3	Aquaculture fish is not always poison to aquaculture fish	1
25	2	Carry out in marine and coastal regions cooking classes and/or guided tasting events organized in collaboration with chefs and fishermen's wives to disseminate the local and traditional dishes of maritime cuisine	1
27	2	Organise a “discover a new fish” day every week during the high season	1
29	3	Go on with cleaning of the seas from pollution in order to enable the seas themselves to be more productive	1

The participants distinguished change actions relating to:

- Formal education, such as including marine sciences in school curricula (A3, C1, V2), school exchange programmes to discover local biodiversity and traditions (A28, C1, V3), scaling up

research in marine, social and economic sciences to bring responses to responsible seafood production challenges (A21, C3, L4, V3).

- Informal education, such as educating the general public on their individual role in marine resource conservation and sparking their interest in sustainability through visits to natural history museums, aquariums, science end educational centres, outings and hands-on activities in the nature, inclusion of ocean literacy and citizen science programmes (marine biodiversity, vulnerability of marine ecosystems and food chains, the potential and challenges of aquaculture, etc.) in tourist offers and packages (A23, C4, L2, V4), developing reliable information tools for tourists and stakeholders, and science communication campaigns addressing all groups of consumers and stakeholders in value chains (Mr.Goodfish programme) (A20, C1, V,2)
- Life-long education, technical and professional trainings in communicating/marketing techniques to direct the choice of consumers to purchase “blue fish” (i.e. less noble or less known species that are not threatened with overfishing) (A14, C2, L2, V6); technical trainings in science communication for researchers, professional trainings to improve skills or to acquire new ones (e.g. in aquaculture, algae farming), to create cultural awareness of the value of the resources among local stakeholder groups so that they would raise awareness about it to tourists (A14, C2, L2, V6) (A12, C4, V1). This could be achieved by educating local entrepreneurs, businesses and tourist-related industry about the profits of joining sustainable seafood and tourism initiatives; using adapted tools that would convince them about the economic value of sustainability and that local marine resources are foundation for economic growth and prosperity; instilling a sense of responsibility, pride and ownership of marine resources because they provide money (This is my resource. I benefit from it so I should take care of it).

These science education actions meet the technological challenges such as the lack of skills and innovation, multifunctional sustainable infrastructures, difficulties in accessing ICT (e.g. for internet connectivity, marketing tools, monitoring, management schemes, measuring sustainability performance), lack of innovative customised products and services such as e.g. underwater tourism, marine archaeology, maritime heritage, eno-gastronomic activities, the lack of automatic and electronic data capture, seafood traceability systems and real-time information sharing.

## 6.4 Open access

The participants suggested ten actions favouring Open Access to data and included five of them in the map. They believed that Open Access/Open Science relied on the institutions’ (research, business, industry and policy) willingness to share their data and that it was instrumental to boosting innovation and increasing the use of scientific results by all societal actors as well as to developing public trust and engagement.

N°	CLUSTER	ACTION	VOTES
<b>ACTIONS ON THE ROADMAP</b>			
2	2	Develop a mobile app	7
7	2	Cooking workshops for locals and visitors: how to cook local by-catches, a trendy and social sustainable seafood consumption!	5
23	4	Encourage tourism businesses to offer short-stay packages on sea biodiversity and food	4
26	1	Educate the public	7
28	1	Exchange programs between schools	3
<b>ACTIONS NOT INCLUDED IN THE ROADMAP</b>			
3	1	Young people are the future	2

8	3	Promote cultivation of macro algae on the European coasts to sustainably meet the new consumers needs	1
20	1	Spread the message - Mr.Goodfish consumer	2
24	3	Aquaculture fish is not always poison to aquaculture fish	1
27	2	Organise a “discover a new fish” day every week during the high season	1

They believed that even though Open Access/Open Science consisted in giving free online access to the results of publicly funded research (publications and data), the general public did not know how to interpret and understand them and neither did most of businesses and industry for whom knowledge transfer mechanisms were necessary. Therefore, they distinguished between the actions making information available online and the actions making the information understandable by its potential users. Except the mobile app, the participants suggested actions that would make the information accessible outside digital systems thus available to people who are not computer illiterate. They insisted on actions that would make the scientific data understandable through immediate application in the field: short-stay packages combined with workshops about sea biodiversity (A23, C4, L2, V4), educational activities for school pupils (A26, C1, L1, V7), “discover a new fish” day programme (A27, C2, V1), seafood cooking workshops (A7, C2, L2, V5) and Mr.Goodfish sustainable fish lists providing latest scientific knowledge about species their stocks and fishing methods in an attractive and understandable way (A20, C1, V2).

Still, the mobile application (A2, C2, L3, V7) was a flagship action that should enable a consumer to trace seafood back to its source across supply chains and back to the fishing gear it had been caught with. The development of such an application would require the cooperation of diverse stakeholder groups across several activity sectors (marine sciences, computing, transportation, fisheries, supply chains, etc.) including citizen science programmes for data collection.

## 6.5 Gender equality

Gender equality did not come up as the topic of the discussions of the participants the majority of whom were female (13 participants out of 18 were women). Consequently, no actions relating directly to this RRI dimensions were put forward, which did not mean that the coastal and maritime tourism should not face challenges that could negatively affect women’s presence in this industry.

The gender dimension was tackled in the workshop indirectly in the capacity building and educational actions (A26, C1, L1, V7) that developed opportunities for all in product and service development: life-long education, technical and professional trainings (A14, C2, L2, V6), and collaboration with chefs to disseminate the local and traditional dishes of maritime cuisine (A25, C2, V1).

## 6.6 Governance

Governance was significant with nineteen related actions and nine of them on the roadmap. The participants believed that governance arrangements and practices were critical to favouring sustainable tourism and seafood consumption and they called for the involvement of public authorities on local, national and European levels.

N°	CLUSTER	ACTION	VOTES
<b>ACTIONS ON THE ROADMAP</b>			
2	2	Develop a mobile app	7
5	3	Reinforce water policy to develop sustainable seafood production	1
10	4	Sustain in coastal areas “pesca-tourism” and “itti-tourism” activities and experiences	2
11	4	Connect seafood and region	2
18	3	Develop a European Label through a European project for sustainable tourism associated with sustainable seafood consumption	2
21	3	Scale up research to bring responses to responsible seafood production	3



23	4	Encourage tourism businesses to offer short-stay packages on sea biodiversity and food	4
33	3	Public transports	0
34	3	Create seafood producers organization	3
<b>ACTIONS NOT INCLUDED IN THE ROADMAP</b>			
1	1	Use World Ocean Day to promote sustainable tourism through sustainable seafood consumption	1
4	3	Guarantee the sustainability and precarious balance of seafood under tourist industry impact	1
8	3	Promote cultivation of macro algae on the European coasts to sustainably meet the new consumers needs	1
9	1	Waste: informing and educating about the vicious circle	0
19	3	Better feed farmed fish	2
20	1	Spread the message - Mr.Goodfish consumer	2
24	3	Aquaculture fish is not always poison to aquaculture fish	1
27	2	Organise a “discover a new fish” day every week during the high season	1
30	4	Build a competitive and sustainable tourism offer	1
32	4	Eco-friendly catering	2

They suggested actions addressing:

- economic feasibility, competitiveness and sustainability of tourism destinations, local prosperity, employment quality and social equity: Guarantee the sustainability and precarious balance of seafood under tourist industry impact (A4, C3, V1), Develop a European Label for sustainable tourism and seafood consumption (A18, C3, L3, V2), Build a competitive and sustainable tourism offer (A30, C4, V1), Public transports (A33, C3, L4, V0),
- visitor fulfilment: Sustain in coastal areas “pesca-tourism” and “itti-tourism” activities and experiences (A10 C4, V2), Encourage tourism businesses to offer short-stay packages on sea biodiversity and food (A23, C4, L2, V4),
- empowerment of local communities in planning and decision making, community wellbeing, cultural richness: Connect seafood and region (A11, C4, V2),
- biological diversity, resource efficiency: Better feed farmed fish (A19, C3, V2), Promote cultivation of macro algae on the European coasts to sustainably meet the new consumers needs (A8, C3, V1),
- environmental quality minimising pollution of air, water and land, and decreasing production of waste: Reinforce water policy (A5, C3, L3, V1), Waste: informing and educating about the vicious circle (A9, C1, V0), Public transports (A33, C3, L4, V0).

The participants believed that governance should be able to transform tourism in coastal areas into a major source of growth and jobs attracting enough skilled staff with new career progression opportunities and regardless job seasonality. They felt strongly that key public and private bodies’ policies and actions should significantly contribute to meeting the social challenge of exploiting the potential of tourism and seafood in a sustainable way while offering attractive jobs to people, and respecting local tradition and culture.

They also believed that governance should provide efficient protection against seafood from unsustainable fisheries and aquaculture and in particular the importation of fish coming from IUU fishing (Illegal, Unreported and Unregulated fishing).

## 6.7 Ethics

Twenty-two actions including five on the map related to Ethics. They were mainly concerned with societal relevance and ethical acceptability of research and innovation outcomes rather than the research topics.

N°	CLUSTER	ACTION	VOTES
<b>ACTIONS ON THE ROADMAP</b>			
6	4	Develop cultural tourism in link with sustainable seafood consumption	6

7	2	Cooking workshops for locals and visitors: how to cook local by-catches, a trendy and social sustainable seafood consumption!	5
21	3	Scale up research to bring responses to responsible seafood production	3
26	1	Educate the public	7
31	2	Work on a concept close to the French AMAP (community-supported agriculture) for seafood products fished by local fishermen	5
<b>ACTIONS NOT INCLUDED IN THE ROADMAP</b>			
1	1	Use World Ocean Day to promote sustainable tourism through sustainable seafood consumption	1
3	1	Young people are the future	2
4	3	Guarantee the sustainability and precarious balance of seafood under tourist industry impact	1
8	3	Promote cultivation of macro algae on the European coasts to sustainably meet the new consumers needs	1
9	1	Waste: informing and educating about the vicious circle	0
10	4	Sustain in coastal areas “pesca-tourism” and “itti-tourism” activities and experiences	2
12	4	Develop the offer of direct discovery of local seafood production	1
13	4	Make tourists appreciate local production by inviting them to help out	0
15	4	Make discover diverse cultures through their culinary specialties	1
16	4	Promote local positive experience to make the difference	2
17	3	Work with local leisure fishing federations that practice 'no kill' catches, research organisations and NGOs to organise tagging of fish species (i.e. Blue fin tuna or swordfish)	2
20	1	Spread the message - Mr.Goodfish consumer	2
22	4	Introduce sustainable local seafood product brands to the tourism market	2
24	3	Aquaculture fish is not always poison to aquaculture fish	1
25	2	Carry out in marine and coastal regions cooking classes and/or guided tasting events organized in collaboration with chefs and fishermen's wives to disseminate the local and traditional dishes of maritime cuisine	1
29	3	Go on with cleaning of the seas from pollution in order to enable the seas themselves to be more productive	1
32	4	Eco-friendly catering	2

Ethics was closely related to sustainability and social justice. The actions generated during the workshop were dedicated to fulfilling our moral duty to preserve marine and coastal biodiversity and natural resources, the most vulnerable assets exposed to mass tourism, for future generations while respecting the rights of local communities to prosper: *Guarantee the sustainability and precarious balance of seafood under tourist industry impact* (A4, C3, V1), *Scale up research to bring responses to responsible seafood production* (A21, C3, L4, V3), *Eco-friendly catering* (A32, C4, V2), *Young people are the future* (A3, C1, V2), *Promote cultivation of macro algae on the European coasts to sustainably meet the new consumers needs* (A8, C3, V1).

The ethical challenges related to ensuring a balance between the respect of the rights of local communities to prosper and the rights of future generations to have healthy seas and oceans with abundant resources available to all.

## 6.8 Sustainability

Sustainability emerged as the most significant dimension and was associated with thirty-one actions including eleven actions on the map. It played a central role in discussions and thinking.

N°	CLUSTER	ACTION	VOTES
<b>ACTIONS ON THE ROADMAP</b>			
2	2	Develop a mobile app	7
5	3	Reinforce water policy to develop sustainable seafood production	1
6	4	Develop cultural tourism in link with sustainable seafood consumption	6
7	2	Cooking workshops for locals and visitors: how to cook local by-catches, a trendy and social sustainable seafood consumption!	5
11	4	Connect seafood and region	2
14	2	Stimulate the people involved in the 'market of fish' to give value to the so called bluefish	6

18	3	Develop a European Label through a European project for sustainable tourism associated with sustainable seafood consumption	2
21	3	Scale up research to bring responses to responsible seafood production	3
23	4	Encourage tourism businesses to offer short-stay packages on sea biodiversity and food	4
31	2	Work on a concept close to the French AMAP (community-supported agriculture) for seafood products fished by local fishermen	5
33	3	Public transports	0
<b>ACTIONS NOT INCLUDED IN THE ROADMAP</b>			
1	1	Use World Ocean Day to promote sustainable tourism through sustainable seafood consumption	1
3	1	Young people are the future	2
4	3	Guarantee the sustainability and precarious balance of seafood under tourist industry impact	1
8	3	Promote cultivation of macro algae on the European coasts to sustainably meet the new consumers needs	1
9	1	Waste: informing and educating about the vicious circle	0
10	4	Sustain in coastal areas “pesca-tourism” and “itti-tourism” activities and experiences	2
12	4	Develop the offer of direct discovery of local seafood production	1
13	4	Make tourists appreciate local production by inviting them to help out	0
15	4	Make discover diverse cultures through their culinary specialties	1
16	4	Promote local positive experience to make the difference	2
17	3	Work with local leisure fishing federations that practice 'no kill' catches, research organisations and NGOs to organise tagging of fish species (i.e. Blue fin tuna or swordfish)	2
19	3	Better feed farmed fish	2
20	1	Spread the message - Mr.Goodfish consumer	2
22	4	Introduce sustainable local seafood product brands to the tourism market	2
24	3	Aquaculture fish is not always poison to aquaculture fish	1
25	2	Carry out in marine and coastal regions cooking classes and/or guided tasting events organized in collaboration with chefs and fishermen's wives to disseminate the local and traditional dishes of maritime cuisine	1
27	2	Organise a “discover a new fish” day every week during the high season	1
29	3	Go on with cleaning of the seas from pollution in order to enable the seas themselves to be more productive	1
30	4	Build a competitive and sustainable tourism offer	1
32	4	Eco-friendly catering	2

Sustainability of marine and coastal ecosystems and reduction of the negative impact of human activities upon them was the key motivation behind almost all actions generated by the participants: *Guarantee the sustainability and precarious balance of seafood under tourist industry impact (A4, C3, V1), Work with local leisure fishing federations that practice 'no kill' catches, research organisations and NGOs to organise tagging of fish species (A17, C3,V2), Go on with cleaning of the seas from pollution in order to enable the seas themselves to be more productive (A29, C3, V1), Eco-friendly catering (A32, C4, V2), Reinforce water policy (A5, C3, L3, V1), Waste: informing and educating about the vicious circle (A9, C1, Vo), Public transports (A33, C3, L4, Vo), Scale up research to bring responses to responsible seafood production (A21, C3, L4, V3).*

## 6.9 Social Justice / Inclusion

Social justice / inclusion was also a significant dimension because sixteen actions including five on the map were relating to it.

N°	CLUSTER	ACTION	VOTES
<b>ACTIONS ON THE ROADMAP</b>			
11	4	Connect seafood and region	2
18	3	Develop a European Label through a European project for sustainable tourism associated with sustainable seafood consumption	2
26	1	Educate the public	7
31	2	Work on a concept close to the French AMAP (community-supported agriculture) for seafood	5

		products fished by local fishermen	
33	3	Public transports	0
<b>ACTIONS NOT INCLUDED IN THE ROADMAP</b>			
3	1	Young people are the future	2
8	3	Promote cultivation of macro algae on the European coasts to sustainably meet the new consumers needs	1
10	4	Sustain in coastal areas “pesca-tourism” and “itti-tourism” activities and experiences	2
12	4	Develop the offer of direct discovery of local seafood production	1
13	4	Make tourists appreciate local production by inviting them to help out	0
15	4	Make discover diverse cultures through their culinary specialties	1
16	4	Promote local positive experience to make the difference	2
22	4	Introduce sustainable local seafood product brands to the tourism market	2
25	2	Carryout in marine and coastal regions cooking classes and/or guided tasting events organized in collaboration with chefs and fishermen's wives to disseminate the local and traditional dishes of maritime cuisine	1
27	2	Organise a “discover a new fish” day every week during the high season	1
32	4	Ecofriendly catering	2

The key driving force behind the actions was the respect of the equal rights of local communities to prosper, equality of opportunity and equal access to resources: *Connect seafood and region* (A11, C4, V2), *Educate the public* (A26, C1, L1, V7), *Work on a concept close to the French AMAP (community-supported agriculture) for seafood products fished by local fishermen* (A31, C2, L3, V5), *Public transports* (A33, C3, L4, V0), *Sustain in coastal areas “pesca-tourism” and “itti-tourism” activities and experiences* (A10,C4, V2), and *Promote local positive experience to make the difference* (A16, C4, V2).

## 7 Workshop impact and implications for the future

### 7.1 Actions that can be implemented in the framework of the MARINA project

The following actions proposed by the participants can be taken up by the MARINA consortium:

#### 7.1.1 Science communication

- A communication campaign on the occasion of the International Women’s Day on 8<sup>th</sup> March to foster female careers in marine and maritime sectors,
- A communication campaign on the occasion of World Water Day on 22<sup>nd</sup> March to reinforce water policies,
- A communication campaign “Fish of the day” / “Discover a new fish” to promote sustainable seafood consumption on World Ocean Day on 8<sup>th</sup> June,
- A communication campaign to promote sustainable marine and coastal tourism initiatives on World Tourism Day on 27<sup>th</sup> September,
- Participation in the European Science Week to promote the need for scaling up research to address the challenges of a responsible seafood production,
- RRI international conferences and call for papers on scaling up research to address the challenges of a responsible seafood production.

#### 7.1.2 Knowledge brokering and stakeholder engagement

MARINA platform could become a project incubator and a project-matching platform where SMART marine and maritime projects are discussed with the aim of assembling project partners across other sectors and raising funds. This would require the evolution of the MARINA platform from a knowledge exchange platform to a knowledge-brokering tool.

## 7.2 *Emerging topics*

During the workshop discussion the following topics emerged:

1. Sustainable seafood cities.
2. Water quality improvement – develop a dialogue between local authorities, business/industry, research, citizens, NGOs and CSOs to define what kind of water policies should be developed because they all have different interests and priorities (water treatment plants vs agricultural and aquaculture practices vs the quality of bathing water...)
3. Waste management and education about the impact of pollution on the productivity of the sea. Economic value of plastic collection and recycling.
4. Academic research that would combine marine, social and market studies on:
  - sustainable seafood consumption: how to consume seafood sustainably, how many fish people can eat per week /per month; what species they should be eating, in how many meals at a time...
  - the local seafood products most appreciated by tourists, the products that they consider most emblematic of the area, the degree of interest of hotels, restaurants to buy them, the characteristics of breeding sites and breeding conditions of captive species, the most appropriate composition of feed and the propensity of local communities to reconvert to new economic activities relying on aquaculture of high quality seafood,
  - the chemical (nutrients, metals, pesticides, drugs...) and bacteriological composition of by-products, the food obtained and production tests in seafood farms,
  - the best sites for cultivation of macro algae including new offshore constructions (windmills), the cultivation techniques that minimize the risk of introduction of alien species in ecosystems and the market demand for algae.
5. Connect academic research and public education. So far research community has been very closed worldwide. They have focused too much on individual studies and advancing knowledge and not enough on actual conservation actions. Many research results do not go into real action.
6. Efficient public transportation in coastal cities.

## 7.3 *Policy implications resulting from the workshop*

The main marine subjects discussed during the workshop were sustainable tourism, fishing, aquaculture, Blue Growth, education and to a certain extent pollution caused by human, land and sea pressures, waste management and land transport in coastal cities.

The actions suggested by the participants referred strongly to the Marine Strategy Framework Directive – 2008/56/EC, Common Fishery Policy (1380/2013) and Water Framework Directive (EC, 2000) in terms of the ecosystem approach to the management of human activities while enabling a sustainable use of marine goods and services and in particular fisheries and aquaculture. They gave priority to maintaining good environmental status of marine and coastal ecosystems and the empowerment of local communities in planning and decision-making. They called for the involvement of public authorities on local, national and European levels to foster the integration of actions in the area through funding schemes, effective water policy and coherent legislative frameworks for economic competitiveness and sustainability of tourist destinations.

Science education and open access were considered to be key prerequisites to public engagement in policy.

## 8 Workshop follow-up in my organisation

The workshop allowed for enlarging the professional network of Nausicaa and suggested collaborative RRI-driven actions and projects that could be implemented by the aquarium in cooperation with local communities.

### 8.1 *Actions that can be implemented by Nausicaa*

#### 8.1.1 Science communication

- Create a sustainable seafood brand – under implementation,
- Develop a mobile application that would help consumer buy seafood from sustainable stocks – under way,
- Develop a European label for sustainable tourism and seafood consumption,
- Propose seafood cooking workshops and seafood tastings with chefs and local fishermen’s wives,
- Put in place short stay package offers that would make discover the region through its seafood culinary tradition: a visit of the aquarium combined with a sustainable seafood meal in a local restaurant or at a local fisherman’s home (itti-tourism), a tour on a fishing boat (pesca-tourism), a visit of a local aquaculture farm, a cooking workshop, a guided tour of seafood market or a guided tour of seafood auction,
- Develop a communication campaign on the occasion of the International Women’s Day on 8<sup>th</sup> March to foster female careers in marine and maritime sectors,
- Develop a communication campaign on the occasion of World Water Day on 22<sup>nd</sup> March to reinforce water policies,
- Develop a communication campaign “Fish of the day” / “Discover a new fish” to promote sustainable seafood consumption on World Ocean Day on 8<sup>th</sup> June,
- Develop a communication campaign to promote sustainable marine and coastal tourism initiatives on World Tourism Day on 27<sup>th</sup> September,
- Participate in the European Science Week to promote the need for scaling up research to address the challenges of a responsible seafood production,
- Organise an RRI international conference and call for papers on scaling up research to address the challenges of a responsible seafood production.

#### 8.1.2 Public engagement

- Research on seafood consumer behaviour,
- Organise lectures, participatory workshops, seminars on hot topics related marine societal challenges.

### 8.2 *Workshop follow-up with participants*

The workshop initial results and photographs were posted on the MARINA Knowledge Sharing Platform where the workshop participants were able to download them in summer 2017. The online webcasting on Nausicaa’s YouTube channel and MARINA platform and graphic recording of the workshop enabled to share the results in a visual way. A visual roadmap made by an artist during the workshop was displayed in the main hall in the aquarium and published on social media on several occasions. The webcast had c.270 views and is still available at <https://www.youtube.com/watch?v=YZQCdhll4ZE>.

A young participant of the workshop from Austria wrote an article about the workshop (BRUNNER, V., “Why every single stakeholder matters – The MARINA Project”) for a blog contest organised by the European Commission and published it on [http://ec.europa.eu/regional\\_policy/blog/detail.cfm?id=21](http://ec.europa.eu/regional_policy/blog/detail.cfm?id=21). She also chose the Responsible Research and Innovation for the subject of the MSc thesis and the MARINA project for a case study.

Moreover, the extracts of this report will be published under the “Maritime Cuisine Meets Sustainable Tourism” event in the event section on the MARINA Knowledge Sharing Platform and shared with the workshop participants. This will be an occasion to reach out to the participants and invite them to visit the MARINA platform to retrieve it together with other international MML workshop reports.

## 9 How the workshop has been assessed by the participants

Eighteen participants attended the workshop. At the end of the workshop they were given a workshop evaluation questionnaire. Thirteen participants completed the questionnaire. The results of this survey are presented here below.

### 9.1 Before the workshop

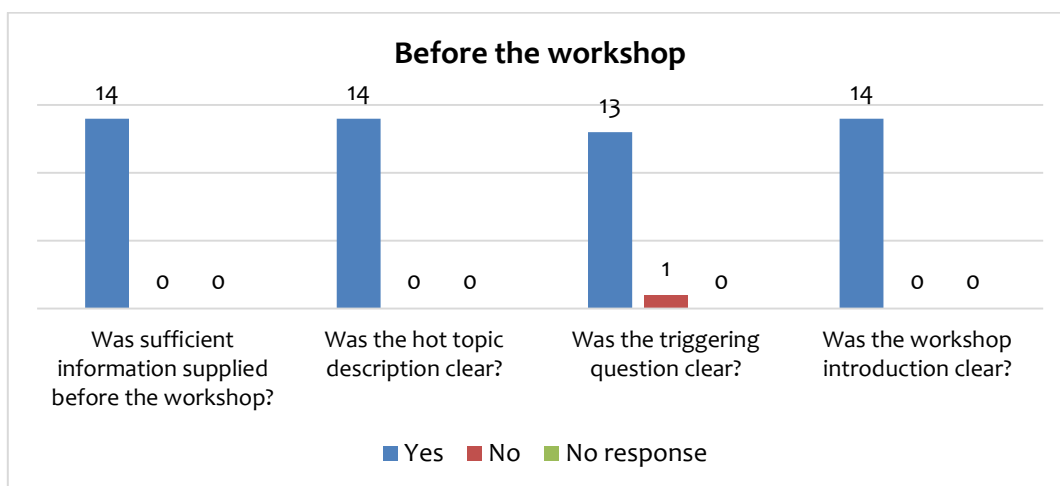


Fig.21. Participant assessment of the introduction to the workshop

### What were your expectations when you registered for the MARINA MML workshop?

- Share points of view with people coming from different professional fields, different places in Europe to get a wider vision of the theme instead of a local vision;
- Meet people who know much more about the subject and learn from them (in English!);
- Meet others from different domains, discuss ideas, network, learn;
- Meet people from Marina project and learn more about the topic;
- Know different point of views and different methodologies;
- Test a project idea and have inputs from experts, learn about the methodology;
- Discovering how a citizen can help and contribute to sustainable tourism;
- I didn't expect every phase to be moderated but it was good to be guided all along the process.

## 9.2 The workshop

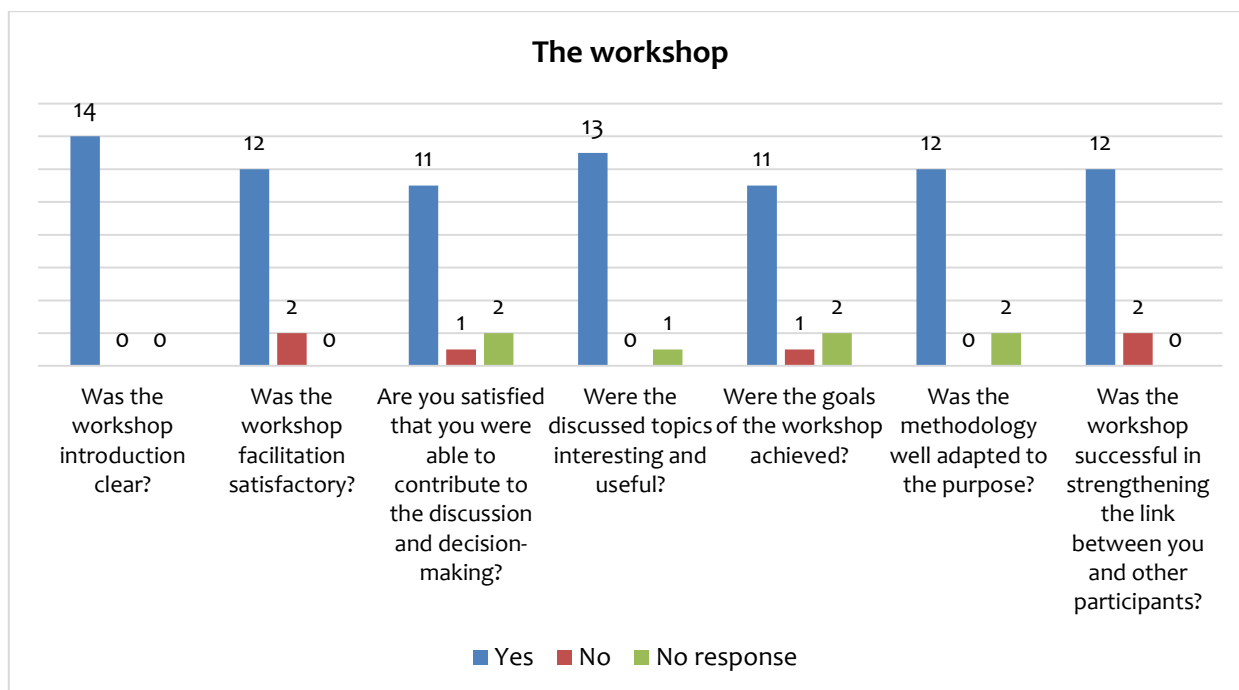


Fig.22. Workshop assessment by the participants

### How do you think the workshop could have been made more effective?

- Maybe by explaining more the methodology so that we can better understand where we were going;
- Perhaps specifying better the type of ideas we had to post in the platform;
- Shorter and more specific presentations of the ideas;
- Instruction to prepare a small presentation and maybe to have some facts/infos ready to provide;
- Working in groups on a few of the ideas at the beginning of the afternoon could have given me more motivation after lunch break. Also, the part where putting together ideas was unclear and too long;
- More time for the SMART to actually come up with a precise plan of action (it was really interesting);
- More participation from experts in the field;
- Maybe more citizens;
- Have some participants from the fishermen community.

Question	Answers
How will you use knowledge gained from the participation?	Good to know better the project to spread the word then
	I will try to see how to adapt the methodology to other workshops
	I don't know yet (hope I can pass on what I learned to others)
	For my future work
	In my work in World Ocean Network
	In my private life and I will spread the message to people around me



I will feel more comfortable with the Marina project and better informed to interact with other partners
Don't know yet. But the conversations I had are somewhere kept in my mind and I will certainly use that knowledge at some point
To better think about how I can actively participate in sustainable development, how I can relate with others, how I can focus my work based on today's info
To develop some ideas on the reduction of pollution
No response (4)

### 9.3 The workshop follow-up

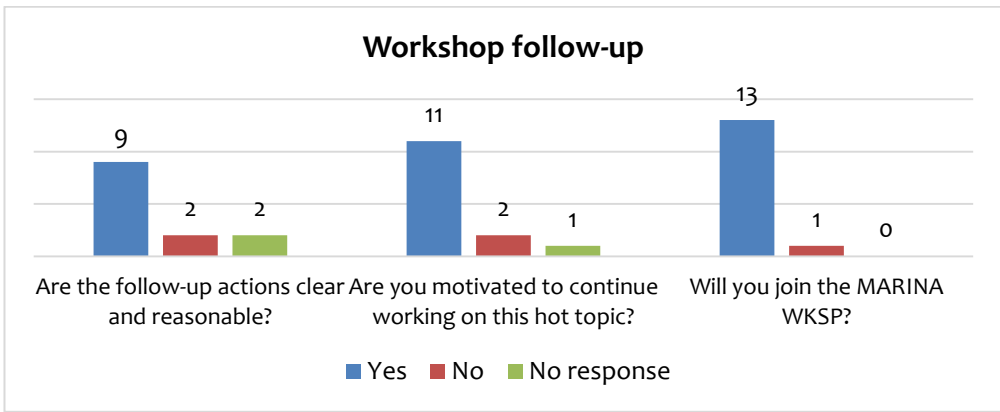


Fig.23. Workshop follow-up assessment by the participants

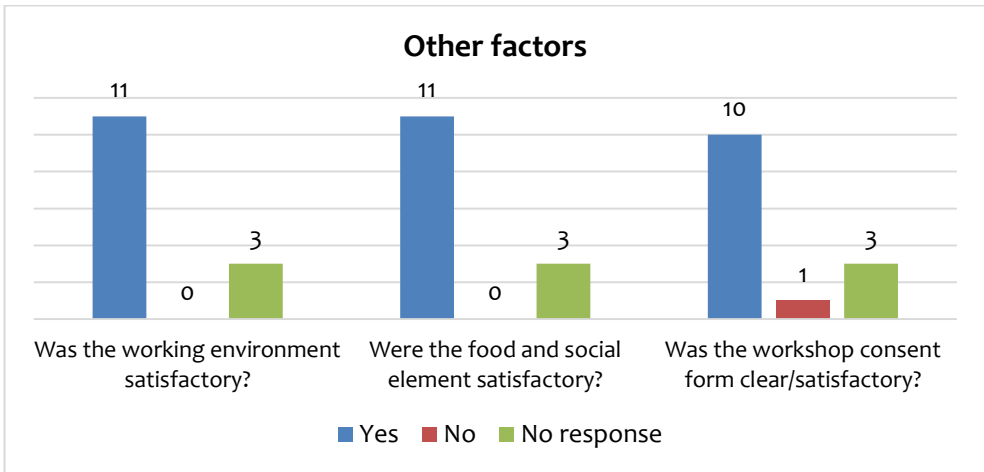


Fig.24. Evaluation of other factors by the participants

You will follow-up on the workshop's results by:

- On the platform, following the results, and in the project;
- Exchanging my email with the participants;
- Maintaining contact with others, staying actively involved in this topic;
- Relationships with the organizers and institutes involved;
- Trying to be more active in sustainable development initiatives concerning tourism.

What initiatives would be useful for the future in your opinion?

- Maybe reorganise the table during the atelier (not in "U")
- Promote sustainable tourism
- Develop for real the best ideas (the fish basket/more research)
- Some of the ideas involved people from the city hall or council. It would be nice to invite them and confront them to get answers
- Education campaigns, investing in local development, prioritizing tourism budgets
- A Deep Sea Mining seminar

9.4 Communication about the workshop

How did you learn about the workshop?

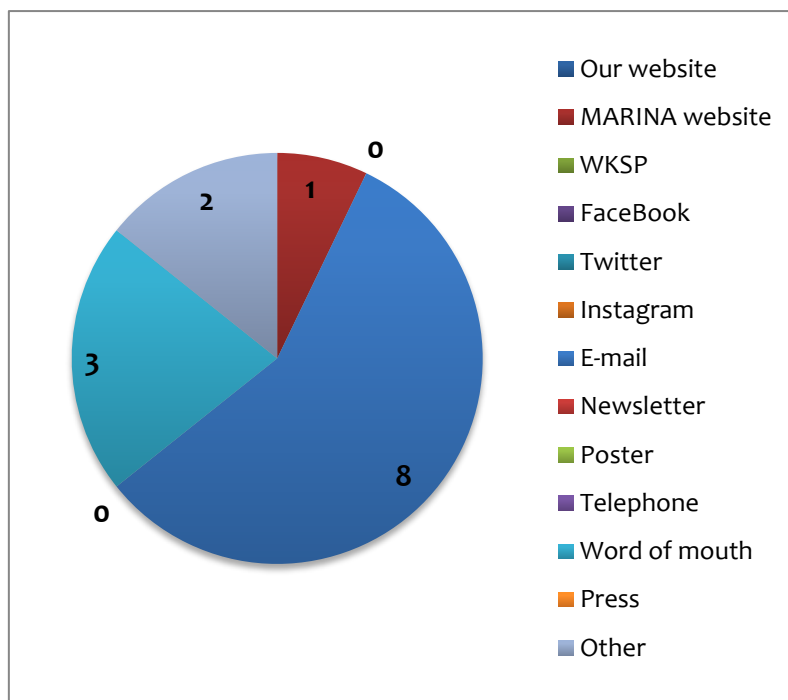


Fig.25. Evaluation of communication channels

How many times did you visit the MARINA website before the workshop?

How many times did you visit the MARINA Web Knowledge Platform before the workshop?

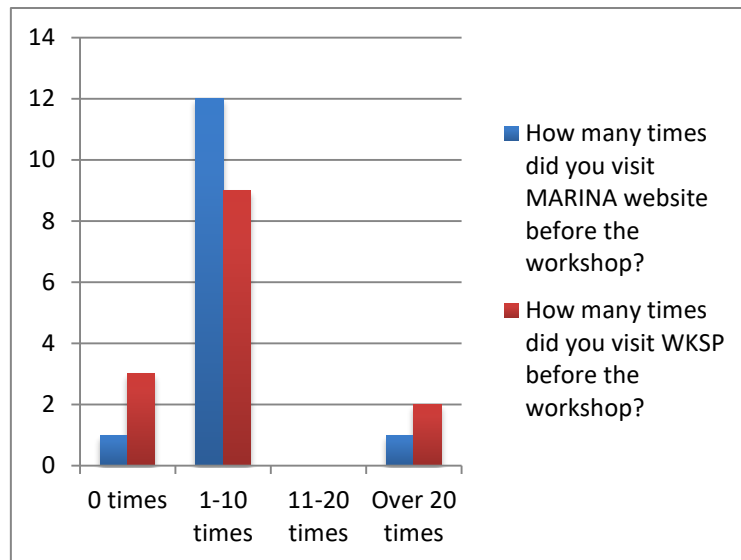


Fig.26. Evaluation of visits to MARINA website and platform

## 10 How the workshop was implemented

### 10.1 Recruitment of participants

Market research was carried out to identify stakeholders whose work or interests related to tourism and seafood. Other potential candidates were chosen from Nausicaa’s broad network of research and tourist organisations. Citizens were recruited from among Nausicaa’s newsletter subscribers and by word of mouth. Direct marketing was used to target audience because of the workshop specific topic and the English language that was going to be spoken. Each participant received an invitation signed by Nausicaa’s General Manager and a topic presentation brochure by e-mail.

Three representatives of the MML workshops in Portugal, Italy and Belgium attended the event in Boulogne sur Mer.

Once registered, the participants were contacted by telephone with the instructions to submit their action ideas on the MARINA platform, which they did.

A few participants cancelled their attendance because either they did not speak English well enough (restaurant owners) or they did not feel to have enough expertise in the subject (citizens) or their timetable did not allow them to commit themselves for the whole day (a food blogger).

A poster campaign in English and French was carried out to promote the workshop in the area. Posters were put in universities, secondary schools, research institutes, town halls, public libraries, a bookshop, hotels, restaurants, tourist offices; museums and sports clubs.

Moreover, the workshop was promoted through the websites of [EU R&I Green Week](#) , [2017 International Year of Sustainable Tourism for Development](#) , [Nausicaa](#) , [MARINA](#) and the social media channels of Nausicaa (over 2990 Twitter followers and 37500 more on FaceBook), Mr.Goodfish and MARINA both before and during the event. Nausicaa also sent out a press release to almost 600 French, English, Belgian and Dutch press agencies and journalists. An interview was arranged to promote the workshop on the local radio Delta FM channel.

## 10.2 Participant profile

Eighteen stakeholders attended the international MML workshop in Boulogne sur Mer.

The graphs below illustrate the profile of the participants.

- Stakeholder groups by gender

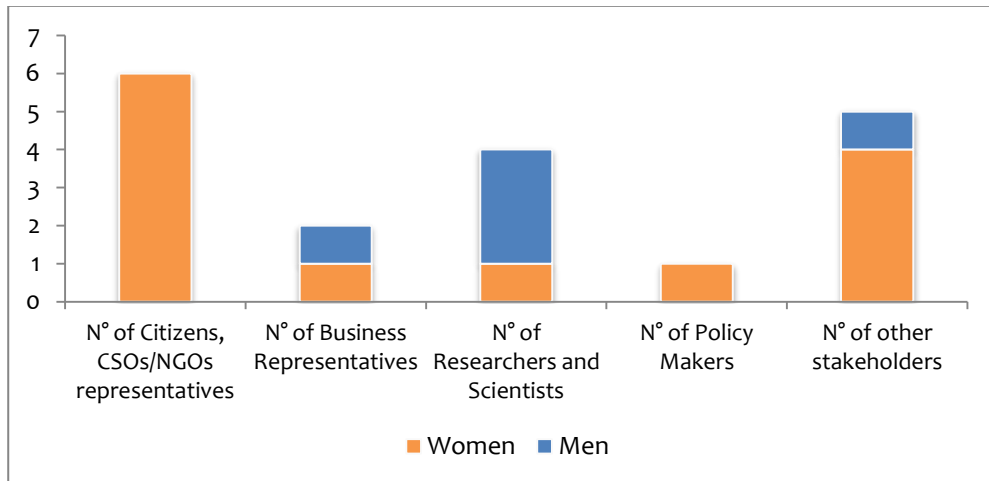


Fig.27. Stakeholder breakdown

- Activity sector

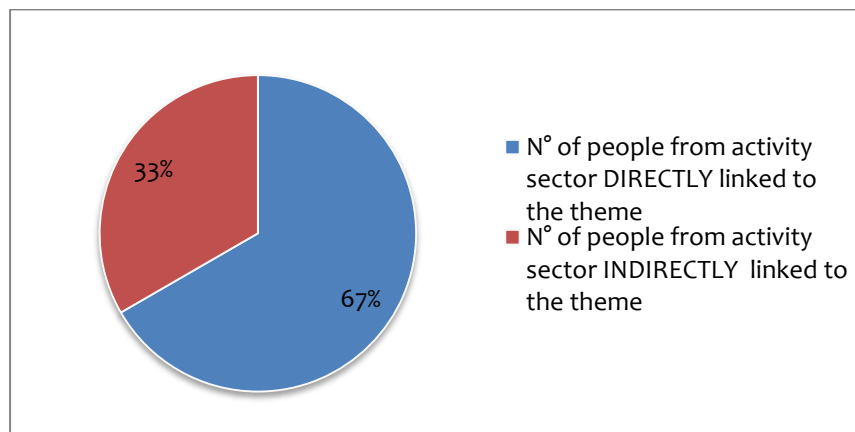


Fig.28. Participant activity sectors linked to the hot topic

- Geographical location

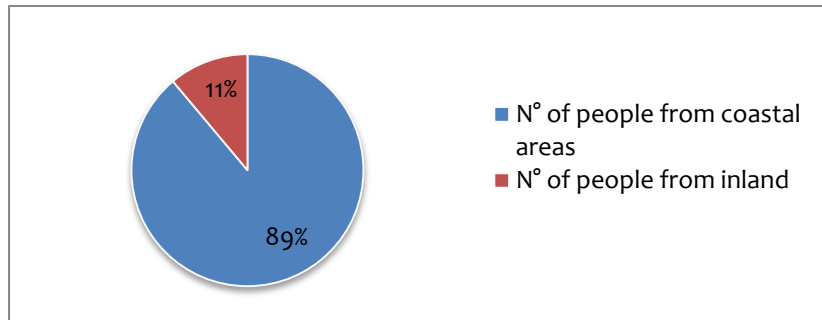


Fig.29. Participants per area

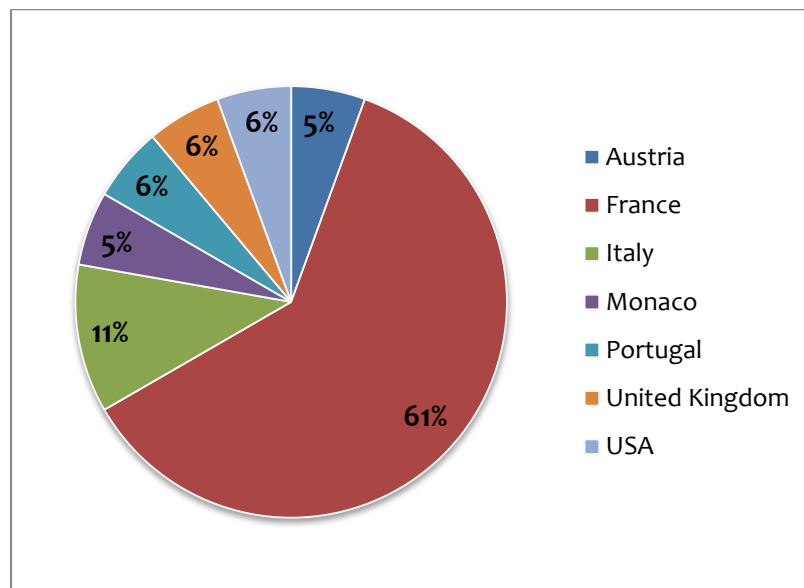


Fig.30. Participants per country

- Age

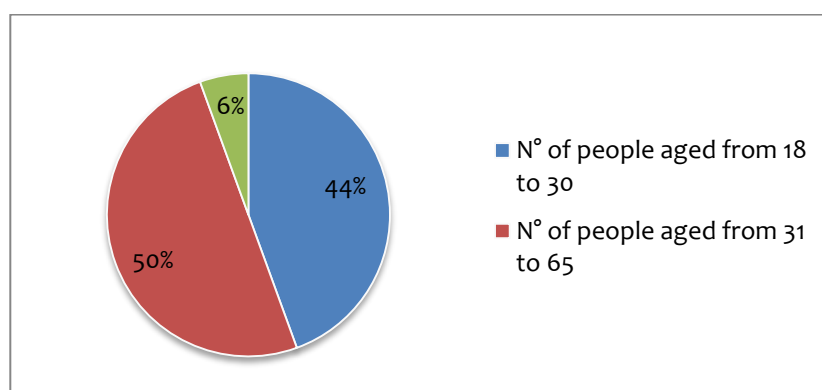


Fig.31. Participant age groups

### 10.3 Description of the workshop implementation process

The hot topic of the workshop was chosen from the list of marine themes suggested for the MARINA project, resulted from the first round of local MML workshops and was related to the 2017 International Year of Sustainable Tourism. The choice was natural for Nausicaa which is the largest tourist attraction

in the North of France with over 620 000 visitors from France, Belgium and the UK every year. Nausicaa is also currently coordinating a European programme about sustainable seafood consumption so the results of the workshop will be used to advance it.

The day before the workshop, a free-guided visit of Nausicaa aquariums was offered as well as a welcome dinner, which had the aim of breaking the ice.

The workshop was held on the Nausicaa's premises in a large sunny room with a terrace and a view over the beach. Coffee breaks and lunch were served on side tables in the room and on the terrace. The atmosphere was very friendly, the participants were enthusiastic about the topic and the discussions were very lively.

Nausicaa had been familiar with the Structured Democratic Dialogue (SDD) facilitation method assisted by software, having facilitated two similar workshops in the framework of the Sea for Society project and having participated in the SDD training organised by Cyprus Neuroscience Technology Institute (CNTI), a MARINA partner. Nevertheless, because of the complexity of the custom-made software, two specialists from CNTI came to Boulogne sur Mer to facilitate the workshop.

The participants liked the facilitation method and the workshop had c.100 views (almost 300 now) on YouTube. Some feedback was that the stages of the workshop and the expected outcome could be better explained because at some moments they did not know where the discussions were leading to. They also suggested breaking up the phase of determining which actions influences each other as the process is very demanding and tedious. Another suggestion was to make the participants come to the blackboard where the final roadmap was displayed and make them read and discuss it together instead of handing out the prints and leaving them to interpret the roadmap on their own.

Nausicaa hired a graphic recording artist from Belgium to live draw the meeting. Graphic recoding captured and synthesised people's ideas and expressions in coloured images and words on a large piece of paper as they spoke. It was a powerful tool for bringing a workshop to life and creating a visual record. The visual map produced in Boulogne sur Mer was complementary to the conceptual roadmap generated by the SDD software. They both constituted a group memory reflecting collective intelligence in two different ways and allowing for the group's collective work to be shared with others as a framework. The resulting drawings were displayed in the Nausicaa's main hall and re-worked by Nausicaa staff who pulled out the most important pictures and key messages and distilled them on social media channels after the workshop.



Fig.32. Graphic recording of the morning session



Fig.33. Graphic recording of the afternoon session

## 11 Conclusions

The recruitment of participants and the composition of the group were challenging because attending a full-day international workshop in Boulogne sur Mer where Nausicaa aquarium is located required additional time for traveling from Paris, London or Brussels and at least one night accommodation. Therefore, the hot topic had to be attractive, relevant and meaningful to the participants so sustainable tourism and seafood consumption were chosen because France is a well-known tourist destination and it is famous for its cuisine and cooking traditions.

The RRI dimension that scored the biggest number of actions was sustainability. This may be due to several factors such as the nature of the hot topic, the composition of the group and to the fact that the workshop was hosted in a sunny room with a beautiful view over the beach, which stimulated the senses, provoked emotions making the sustainability of sea crucial in the mind of participants.

The chief message was the importance of science education for all stakeholder groups: for the general public to make informed responsible consumption choices of tourist services and seafood products, for business and industry professionals to produce socially and environmentally acceptable goods and services, for scientists to scale up research to bring responses to sustainable tourism and seafood production challenges and finally for policy-makers to reinforce policies and adopt coherent legislative frameworks of economic competitiveness and sustainability of tourist destinations.

During the discussions, the participants suggested good practice examples worth replicating such as:

1. Azores: reproduction of rock lobster in captivity. The lobster is very expensive because it is difficult to catch. A restaurant has found out how to breed lobsters by accident. They used to keep the cages with lobsters in their caves that were washed by the sea and the lobsters reproduced there. So now they are kept in cages that are plunged in seawater in reefs where the flow is high.
2. Papiroen – Copenhagen street food market. An old paper factory turned into a food market full of trucks with organic food, local products and by products and very popular with tourists because of good food that is cheap.
3. Galicia – visits of aquaculture farms for tourists  
[https://books.google.fr/books?id=drVoXsTC8RgC&pg=PA112&lpg=PA112&dq=Galicia+-+visits+of+aquaculture+farms+for+tourists&source=bl&ots=F-p-1E5DwG&sig=eQkKVrdFAC38ciNtslaBeCAKrMU&hl=fr&sa=X&ved=0ahUKEwiovM3ZlabYAhVGshQKH\\_T\\_vB5EQ6AEINDAC#v=onepage&q=Galicia%20-%20visits%20of%20aquaculture%20farms%20for%20tourists&f=false](https://books.google.fr/books?id=drVoXsTC8RgC&pg=PA112&lpg=PA112&dq=Galicia+-+visits+of+aquaculture+farms+for+tourists&source=bl&ots=F-p-1E5DwG&sig=eQkKVrdFAC38ciNtslaBeCAKrMU&hl=fr&sa=X&ved=0ahUKEwiovM3ZlabYAhVGshQKH_T_vB5EQ6AEINDAC#v=onepage&q=Galicia%20-%20visits%20of%20aquaculture%20farms%20for%20tourists&f=false)
4. The Yorkshire Nature Triangle is showing how nature tourism income can help revitalise Yorkshire's coastal and inland economy. They economic analysis suggests that modest investment would facilitate a rise in the economic value of nature tourism and generate extra jobs. They train all tourism stakeholders on how much money they can get from nature tourism and on how profitable it can be. And it is not just about economic benefits: when people value wildlife they are prepared to protect it. <http://www.ywt.org.uk/yorkshire-nature-triangle> and <http://www.yorkshirenaturetriangle.org.uk>
5. Marais audomarois – label by UNESCO



6. Paniers de la Mer is a catering association for social and professional integration in Boulogne sur Mer in France. They employ people who had been without a job for a long time. They use seafood by-products and by-catches to develop recipes and produce good quality food for sale.
7. [Centre de Formation aux Produits de la Mer et de la Terre](#) is a career enhancement centre which organises training courses on products, themed tours, fish processing techniques, fishmongery, culinary enhancement, etc.
8. CeDePesca in Argentina teaches women to become self-sufficient and integrates them back in work by employing them in seafood production for poor populations who cannot afford expensive fish.

## 12 Appendices

### 12.1 Appendix 1: Agenda of the workshop.



# MARINA MOBILISATION AND MUTUAL LEARNING WORKSHOP PROGRAMME

*Discuss, Explore, Propose and Network*

## MARITIME CUISINE MEETS SUSTAINABLE TOURISM *Challenges and Opportunities*

11<sup>th</sup> May 2017

Nausicaa | Boulogne sur Mer | France



In collaboration with the programme Mr.Goodfish

## AGENDA

<b>Triggering question</b>	<b>What types of Responsible Research and Innovation actions should be put in place so that sustainable seafood production and consumption could contribute to competitive and sustainable coastal and maritime tourism in Europe?</b>
<b>10<sup>th</sup> May 2017</b>	<b>Nausicaa, Boulogne sur Mer</b>
15:00 – 17:30	Introduction to the workshop topic: Visit of Nausicaa exhibitions and presentation of Mr.Goodfish programme
19:00 – 21:30	Dinner – Ice breaking and getting to know each other Restaurant, Boulogne sur Mer
<b>11<sup>th</sup> May 2017</b>	<b>Nausicaa, Boulogne sur Mer</b>
08: 30 – 09: 15	Welcome and Introductions
09:15 – 09:20	Presentation of the MARINA project, its Knowledge Sharing Platform for Responsible Research and Innovation in marine science
09:20 - 09:30	What we are going to do today – Presentation of the agenda of the day and of the Structured Democratic Dialogue facilitation method
09: 30 - 10: 45	Each participant will present their ideas to the whole group. Clarifications and discussion
<b>10: 45 - 11: 00</b>	<b>Coffee break</b>
11: 00 - 13: 00	Together participants will group the ideas according to similarities
<b>13: 00 – 14:00</b>	<b>Lunch</b>
14:00 - 14: 20	Participants will vote the ideas that are the most important to them
14: 20 – 16:00	Creating a road map by prioritizing and deciding how the ideas are interrelated
16:00 – 16:30	Understanding the roadmap and discussing its practical implications
<b>16.30 - 16.45</b>	<b>Coffee break</b>
16:45 - 17.45	<i>What types SMART actions should be put in place so that sustainable seafood production and consumption could help the coastal and maritime tourism grow sustainably ?</i> Suggesting specific, measurable, achievable, responsible and time-related actions that are needed to implement the roadmap (work in small groups and presentation of results)
17:45 – 18:00	Conclusions

2

**12.2 Appendix 2: A list of ideas with their clarifications, number of votes received (ranked from the biggest number to the smallest one), workshop information, participant survey, etc.**

N	Action	Clarification	N° Votes
1	Use World Ocean Day to promote sustainable tourism through sustainable seafood consumption	<p>RAISING AWARENESS World Ocean day is an international public event taking place the 8th of June every year. The idea is to use the notoriety of the event to promote at the same time, a better way to buy and eat seafood for local population and tourists and create a societal dialogue between all the stakeholders and the population.</p> <p>INFORMATIONAL PART: During the event, organize stalls to promote initiatives like Mister Goodfish or a distribution of the Ocean Citizen Passport which contains information about seafood consumption and the benefits that can be taken from this kind of sustainable behaviour. There must be as well stalls explaining the importance of choosing wisely and carefully marine resources for consumption.</p> <p>GATHERING EVENT: Organize a seafood festival during the World Ocean Day (Foodtrucks) and associate fishermen, retailers, restaurant owners, tourism industry workers.</p> <p>The public will be able to directly interact with maritime actors and tourism actors and understand better the struggles and the benefits behind this theme.</p> <p>OBJECTIVES in terms of tourism : Create a specific identity locally. Sell the destination through a public event, to the tourists as a place which respects and puts a great importance in sustainable tourism through sustainable seafood consumption. Use this to promote the destination, advertise it and communicate on it. Make it a part of the city identity. Who: -Aquariums, Criée (seafood auction), city hall, ONG, associations, organisations, everyone who is having a role in the organization and the realization of the World Ocean Day. - Fishermen, industrial, restaurants, fisheries, tourism office, tourism sector... When: - During the World Ocean Day 8th of June. The preparation must be done before hand in order to gather the different stakeholders. How: - Organize a workshop/seminar with all the different stakeholders to come up with a plan of action, - Maybe Mister Goodfish's network to gather restaurants and fishermen of the area.</p>	1
2	Develop a mobile app	<p>What ?</p> <p>To make the choice at the fishmonger's or market to select sustainable fish (good size at the good period) easier, we could use the form recognition technology.</p> <p>Who ?: Software developer, sustainable seafood program/associations, fishmonger federations, consumers.</p> <p>How ?</p> <p>By taking picture of fish (like QR code) the app could indicate the name of the species, where they come from, if they are recommended by a sustainable program, if the fillet or fish is good (the size of sexual maturity), if they come from sustainable stocks...</p>	7
3	Young people are the future	<p>Even though it is mainly today's adults who are responsible for some of our planet's problems, young people can and should play a big part in coping with them, provided they are made more aware of them. Have any schools been contacted for such workshops as the one on May 11 ?</p> <p>Teachers of younger students could be encouraged to read books and other documents dealing with sustainable fishing (local Offices de Tourisme/ Tourist Offices have some quite interesting ones)... and provided with them free of charge, as is the case for schools taking part in the « Planète Bleue » reading challenge.</p> <p>Kids usually respond quite well to such information. But NO lobbying to put sustainable seafood production on syllabuses, please ! Only volunteers - teachers already have to cope with a lot of official requirements !</p>	2
4	Guarantee the sustainability and precarious balance of seafood under tourist industry impact	<p>Maritime communities are resilient, they pass through time preserving their habits, customs and ways of life. The penetration of tourism in maritime communities and the integration of these on a global scale is an inevitability and not an option. The increase in the demands of the tourism sector at the level of small fishing communities demands a development of the production methods in nursery</p>	1

or of captivity of wild species using the breeding techniques planned in aquaculture. This is because there is no possibility of natural regeneration by sea resources (particularly seafood) in the face of current consumption requirements which include a mass domestic and tourist demand. The identity image of some regions are the products of the sea, that constitute symbolic emblems of the maritime communities. It is necessary to identify which products are most typical and adapted to each local environment and to promote their reproduction and their commercial exploitation. The production of seafood should be guided by an increase in quality and authenticity. Only large scale production will be competitive and capable of satisfying growing and expanding selective demand. However, large scale production will result in a decline of quality and will hardly preserve the characteristics that are in danger of being depreciated. It is necessary to bet on species with greater commercial value in order to be competitive in the market. Both the production of shellfish, crustaceans, sea urchins and stone lobster require large investments and the assertive choice of breeding sites with ideal environmental conditions that minimize the risk of contamination of local ecosystems, with ever-fragile equilibria. It is necessary to take into account that sustainability is not a capacity or quality of living ecosystems but a goal to be achieved by socially seeking the technical and human solutions for this purpose. Sustainability is a process and a conception of the world (Worldview) that should guide our way of relating to the resources of the sea and their perpetuation or continuation.

5	Reinforce water policy to develop sustainable seafood production	Water quality is an important element to choose a tourist destination. There is a link between water quality and sustainable seafood production (fisheries and fish farming, shellfish production, agriculture...) So the first thing to do to develop sustainable seafood production is to reinforce water policy. Developing tourism related to economic activities (visiting aquaculture farm, embarking on a fishing boat, visiting fish auction...) can be a good way to go against preconceived ideas about ecological impact of seafood production.	1
6	Developing cultural tourism in link with sustainable seafood consumption	Cultural tourism which often focuses on history, architecture or arts through the visit of museums for example can also raise awareness on the local way of life and culinary traditions as part of a cultural heritage. Promoting local seafood production like fishing, aquaculture, sea markets, and culinary traditions in the tourism industry is a good way of drawing attention to sustainable seafood consumption and its importance for preserving marine resources.	6
7	Cooking workshops for locals and visitors : how to cook local by-catches, a trendy and social sustainable seafood consumption !	Sustainable management of the fish stock implies that catchment is entirely used for its original purpose: feeding people, whatever species are caught. FAO assesses an average fish consumption of 20kg per person in 2014 ( <a href="http://www.fao.org/3/a-i5555e.pdf">http://www.fao.org/3/a-i5555e.pdf</a> ), half of it from aquaculture. The value of a fish caught lies in the output of its transformation. Preserving fish stocks as well as fishermen welfare could be achieved in 3 ways : Economical : noble parts/species (such as cod or shark fins) are expensive and rewarding for fishermen. Less valuable species and parts are discarded as they are often seen as a waste of time and money. Developing new processes to transform them would lead to a more effective exploitation of the local stock. Environmental : discards of by-catches generate tremendous waste, sometimes leading to exhaust a specie itself (eg : sharks). Using different species for food, on a local area, would help to lower pressure on one specific kind of seafood, usually the one on the top of the food chain. This implies to raise awareness to fishermen, consumers – including tourists - and food retailers on how to bring value to all species. Social : buying fish is expensive and cooking fish is sometimes considered as a difficult art. So people buy noble parts because they are easier to cook (eg : tuna steak from Pacific in a low-cost supermarket in Boulogne !). Inventing recipes, teaching them and preparing dishes with local low-value species could be a way to engage consumers in a more responsible gastronomy. In addition this could create social innovation in local catering jobs (eg : Les Paniers de la Mer) and lead people wishing to lower their food budget to be trained. Local species are part of the identity of the place you belong to or you visit - just like humans, they belong to an eco-system. Tourists look for experience to live, ideas and habits to bring back home. Cuisine workshops become more and more popular and trendy in everyday life as people look for social encounters. Providing recipes are developed for unattractive species, tourism experience packages could be developed in Boulogne, Calais or Dunkerque in partnership with restaurants to cooking by-catch workshops. Using social networks and cuisine website (eg. Marmiton) this could be an opportunity to boost sustainable seafood consumption.	5
8	Promote cultivation of macro algae on the European coasts to	Make a survey to identify the best sites for cultivation including new offshore constructions like windmills, the most wanted algae, the most wanted recipes, the market.	1

	sustainably meet the new consumers needs	<p>For non-indigenous species like Wakame, develop cultivation techniques that minimize the risk of introduction in European waters.          Who : IFREMER and European fisheries and aquaculture institutes, oceanographic labs along the coasts, Sea Centers that welcome general public for studies on consumers behaviour, existing algae cultivators for know-how, associations of chefs for recipes.          When : ASAP          How : studies on environmental and cultivation data, in-situ tests for cultivation.          Facilitating factors : raise more interest for algae in the human diet with the European audience related to today's concerns for health, sustainability, nutrition... get more support from the authorities for the implantation of macro algae farms on the coast an offshore, with the help of fishermen and farmers, for this they need to see what they can benefit from that.</p>	
9	Waste: informing and educating about the vicious circle	<p>Local coastline councils with strong tourist activity can be influential in the education of the general public about non-biodegradable waste, often from food packaging, on our beaches and, more importantly, in the sea and on the seafood we eat.          School holiday programs: beach cleaning, waste-art workshops and exhibitions, educational walks explaining the impact of plastic and other non-biodegradable on the environment, and more specifically directly on the fish we eat, debates about how to reduce packaging, etc.          Question: What does the fishing industry do – standards, norms, etc. – to avoid contributing to this problem? From the boat to the consumer... how much packaging is disposed of and how?</p>	0
10	Sustain in coastal areas “pesca-tourism” and “itti-tourism” activities and experiences	<p>The activities of “pesca-tourism” (excursions on board of small-scale fishing boats that permit to live a day of fishery) and “itti-tourism” (hospitality in fishers’ homes and catering services based on traditional regional or local seafood specialties management by fishers) in Italian experience represent an important alternative for fishing enterprises or cooperatives, because it permits to obtain a integrative income in a crisis period for the sector. But the same activities can be an important opportunity also for tourists and overall for coastal and maritime communities because it would contribute directly for development of responsible and sustainable tourism. During the “pesca-tourism” experiences the tourists can know directly traditional gears and technics of professional fishery, see and live directly the moment of the capture of fishes and other marine species and tasting seafood products cooked directly on board or on land in fishing harbor. During a stay in a fishers’ homes and overall a dinner cooked directly by fishers (in Italy there exist some excellent examples overall in lagoon areas, management by local fishing cooperatives) the tourists can get in touch with the world of maritime regions and appreciate the traditional dishes based on consumption of power and seasonal marine species of fish, crustaceans and/or mollusks. All this experiences represent so exactly an examples of responsible and sustainable tourism able to sustain the development of coastal and maritime areas and communities respecting and valorizing their cultural, economic and social vocations.</p>	2
11	Connecting seafood and region	<p>Coastal areas with rich maritime history have a deep connection with the sea, and building tourism around maritime ambiance, especially through sustainable seafood, can attract travelers who wish to reconnect with the ocean and embrace regional maritime history.</p>	2
12	Develop the offer of direct discovery of local seafood production	<p>Local tourism offices can propose a package offer for the discovery of local seafood production. It could contain:</p> <ol style="list-style-type: none"> <li>1. A sustainable aquaculture farm visit, with the meeting of the farmer and a little explanation on the whereabouts of his/her work.</li> <li>2. A walk by the sea with a naturalist guide explaining which seaweed and shellfish can be found and picked in the area according to the season, and in which conditions can it be done sustainably.</li> <li>3. A cooking class with local and seasonal seafood, with a chef.</li> <li>4. A dinner/lunch serving all the seafood that have been presented in previous activities. Such an activity can engage different kind of stakeholders and have them work together (tourism actors, such as tourism offices and guides, farmers, fishermen, chefs and restaurant owners...). Local science centers, museums, aquariums or associations can also be part of this offer for the scientific part. They can indeed present scientific importance of biodiversity and the specificities of the local one. It could also help to the development of a new local food specialty, each region or local area putting the emphasis on their special biodiversity. With this the coastal and marine tourism offer in Europe concerning seafood consumption would be more diverse and adapted to local features. Starting from scratches, this idea would first need a workshop with the different stakeholders to evaluate what is the current offer possible.</li> </ol>	1

		3 facilitating factors: • The offer has to be there already, if there is no farmer, or fishermen, or chef, interested in the sustainability it will be difficult	
		• One organisation has to take the leadership to coordinate all the actors	
		• What could be supportive would be to couple this with the implementation of a special “sustainable seafood” label.	
13	Make tourists appreciate local production by inviting them to help out	Most people will find it easy to promote and defend something they know and personally appreciate. In order to boost sustainable and maritime tourism, a bond between the tourists’ curiosity and the local work culture has to be created. People who visit coastal regions don’t necessarily know a lot about the work that is carried out by local people in the region. Yet, local food producers (fishermen, aquaculture producers,...) have a unique knowledge regarding their work and the environment they’re working in, so they should be seen as essential motors that are able to promote sustainable production and consumption by bringing these topics closer to tourists. Priorly, producers would have to go through trainings about sustainable development and make sure that their work process and outcome is sustainable. Special programs could then encourage tourists to work in local production systems and allow them to get involved in the work and with the workers. A step in this direction has already been made by introducing the concept of pescaturism in coastal regions. Pescaturism is a form of tourism that gives tourists the chance of working with local fishermen on their boats. Not only do tourists benefit from a unique experience, but they also gain direct knowledge about working techniques and marine ecosystems. Pescaturism itself is a sustainable complementary activity for fishermen as this form of tourism raises awareness of the fishermen’s profession and furthermore, the tourists bring in additional revenue without increasing pressure on marine resources. By having worked in the domain themselves, tourists will turn the topic of sustainability into a matter that is close to their hearts and they will make a connection between the work they experienced on the fisher boat and the whole production system. I am convinced that personal encounters and experiences can have an influential impact on people’s lifestyles. Factors that could facilitate this action: the support of educational institutions that set up special sustainability trainings for producers and tourist offices that especially promote this new kind of sustainable tourism. RRI: It is important to focus on both female and male producers; to attract not only tourists but also schools and educational institutions; to be sure that the program is communicated and easy to participate in for everyone who wishes to; to make sure the participation is affordable (for young people and families).	0
14	Stimulating the people involved in the 'market of fish' to give value to the so called bluefish	It happens more and more frequently that people go to the restaurant to eat fish and they always ask for the same type of it to eat as it is more "famous" or "prestigious". The capacity of the fishermen and of the people managing restaurants has to be also that of increasing the awareness on the consumers that every kind of fish can be eaten because it's not only good but in some cases better as bound to the proper season of fishing.	6
15	Discovering diverse cultures through their culinary specialties	Gastronomy is a part of the culture of a region or a country. By consuming local sea products, tourists can learn many things such as local fish species, their production and different recipes proposed in the restaurants. This gives a lot of information about the local’s lifestyle, their habits, their customs and their history. From a country to another, from a region to another, sea products are different, so is gastronomy, so is culture and by extension so is tourism. Besides, ocean’s resources are varied and specific to an area. If fishermen, restaurants and locals work together on sustainable seafood production, they will share their resources, their know-how and their cultural heritage to tourists who won’t discover them anywhere else in the world. And this would lead to a competitive and sustainable coastal and maritime tourism: it will show that their region is worth it and maybe that it is better than another one. Sustainable seafood production will help the locals to keep their particularities and to be known for the services and the activities they offer while protecting the marine environment.	1
16	Promoting local positive experience to make the difference	Tourists are interested in travelling differently: what makes a destination so particular, why should they choose a place for holidays instead of another, what can they tell about a destination to their families and friends once back. They want to experience, they want to escape their everyday life and discover something new, something different. The difference could be in the positive experience: most of the cities located on the coasts have a history and a culture in close link with the sea (i.e: Boulogne, Dunkerque). By discovering local assets, among which can be seafood products, tourists can enrich their knowledge about the sea and the local economy and culture (Herring Festival, Festival of the Sea, Dunkerque Carnaval, Rouen Armada...). By discovering local seafood promoted by fishermen on the fish market for example, they can develop a particular wish to discover these products in restaurants	

		which will prepare excellent recipes. These positive experience (discovering unknown products) can be enhanced by local people giving advice about the way tourists can prepare these products themselves at home. These advice can give to tourists the feeling of going back home with a particular knowledge. Local people can also share with tourists their experience, their positive initiatives to promote sustainable tourism (family businesses, how long they have been fishermen, how they see the evolution of the ocean resources, positive initiatives carried out...). Local people are an asset to achieve the goal of sustainable tourism. They give strength and experience to the message.	
17	Work with local leisure fishing federations that practice 'no kill' catches, research organisations and NGOs to organise tagging of fish species (ie. Blue fin tuna or swordfish)	Work with local leisure fishing federations that practice "no kill" research organisations and NGOs to organise tagging of fish species (ie. Blue fin tuna or swordfish). This could fill the gaps of knowledge on species' migrations and population assessment, taking advantage of leisure fishing activities whilst raising awareness of tourists on research activities and needs, as well as species conservation.	2
18	Develop a European Label through a European project for sustainable tourism associated with sustainable seafood consumption	Objective: Develop a bigger and larger community of people from the tourism industry caring for a more sustainable economy around seafood consumption. The idea would be to create a European label that would accompany and help all stakeholders who want to develop initiatives around this theme or who need help to put it in place. How: Promote the label all over Europe for all different kind of stakeholders (restaurants/ hotel/ Tourism attraction places/ Fishermen...), and help them financially (or else through, communication, networking, consulting) develop their initiatives, help them make adjustments to access a more sustainable way of working, or reward their efforts and good practices financially. The label should be given to people who respect a certain number of regulations (ex: use only fishes not overfished), help promote new initiatives and reward good practices.	2
19	Better feed farmed fish	What?: To minimize the impact of aquaculture on the wild fish to produce pellet food, we can use insect flour. Insects are easy to produce, they don't need a lot of space and they are full of protein. They are a very good alternative to animal protein and so fish protein. Who?: Scientists like CNRS or fish producers. How?: They could develop research and development on different species at different stages and choose the most interesting ones.	2
20	Spreading the message - Mr.Goodfish consumer	Nausicaa already does a lot to make people more aware in its regular exhibitions, in workshops, or events like « Chasse aux oeufs de raie ». How can tourists and all consumers be made more aware of initiatives like Mr Goodfish and others? Outside Nausicaa, try to grab their attention where they buy or eat seafood, as well as where they stay during their holidays. Very few shops and stalls do display Mr Goodfish stickers and posters, and most people don't pay attention to them. Besides, a lot of people in the fishing business seem allergic to EU rules ... Maybe basic information phrased strikingly on free bags or other small giveaways for people who buy seafood from people who believe in sustainable fishing (or are incited to)?	2
21	Scale up research to bring responses to responsible seafood production	Sustainable consumption is based on production which will also have to be sustainable over the long term. The sustainability of elitist or of mass tourism requires the development of products with high quality and exquisite products, exceptional products and luxury products in restaurants and hotels. Crustaceans, shellfish and other seafood are exceptional products that have a high demand for tourists who are increasingly informed and demanding about quality and presentation standards, but also about the authenticity and genuineness of the products. These characteristics are defended with investment in infrastructure and certification of origin, guaranteeing more value in the market and satisfaction in the final consumption. Sustainability requires certified and responsible consumption. Only the responsible consumption allows the long-term productive continuity against the predation without rules and without control of the marine resources. It is necessary to support the implementation of autonomous systems for the creation of seafood through environmental impact studies and pilot experiments. Research needs to be scaled up at different levels or in different areas: - Research on the degree of interest of local hotels and restaurants to buy these products. - Research on the local products most appreciated by the tourists and which they consider most emblematic of each locality. - Research on the characteristics of captive breeding sites.	3



		<ul style="list-style-type: none"> <li>- Research on the breeding conditions of captive species.</li> <li>- Research on how to provide food and what composition is most appropriate to the growth of different species</li> <li>- Research on the propensity of local communities to reconvert to these activities.</li> </ul>	
22	Introduce sustainable local seafood product brands to the tourism market	Draw inspiration from remarkable sites dedicated to food and add the aspect of sustainability. Sustainable tourism is fashionable so promoting the consumption of sustainable products on holiday locations is a virtuous circle: sustainable seasonal seafood enables not only to raise awareness of the protection of coastal and marine areas but it can also raise the profile of an area engaged in the implementation of sustainable production good practices (sustainable fisheries, sustainable aquaculture). The development of a regional sustainable brand can be a plus (e.g. Galicia's promotion of ... is a touristic asset).	2
23	Encouraging tourism businesses to offer short-stay packages on sea biodiversity and food	<p>Although our area has a lot to offer (Grand site des 2 caps, beautiful walking trails, nature tourism assets... and Nausicaa) local tourism offer does not yet focus on sea resources, including seafood. An idea would be to encourage tourism businesses, such as restaurants but also hostels and accommodation providers, museums, bike renters and activities providers... to be trained about sea biodiversity and seafood, fish species to choose.</p> <p>Tourism professionals could raise their customers' awareness on seafood resources and build (or bring input to) packages including short-stay and activities, such as boat trips and encounters with fishermen, cooking workshops, etc... This would enable to bridge the tourism businesses community and fishing professionals (eg : visit of the fish market already organised by the tourism board in Boulogne). This would help preparing the fishing businesses to diversify towards tourism if they wish to. The tourism businesses involved could belong to a brand, strongly connected to Mr Goodfish. An example of such an action, adapted to nature tourism has been developed by the Yorkshire Wildlife Trust and can be found here : <a href="http://www.yorkshirenaturetriangle.org.uk/businesses/what-yorkshire-nature-triangle">http://www.yorkshirenaturetriangle.org.uk/businesses/what-yorkshire-nature-triangle</a></p> <p>This offer could be supported by local authorities and promoted by local tourism board and offices. This meets the new trends in customers' expectations : living true local experiences and good hints for long-lasting sustainable action « made in Boulogne (or Calais or Dunkerque)».</p>	4
24	Aquaculture fish is not always poison to aquaculture fish	<p>Carefully study the environmental and human health risk of using selected byproducts of aquaculture to feed aquaculture animals, so pellet food for aquaculture can be made out of cultivated salmon heads and tails, for example. Today European regulation is made on a copy and paste of the regulation on cows initiated by the mad cow crisis. The result is a still existing pressure on the wild stocks just to make pellet food.</p> <p>Who : IFREMER and European fisheries and aquaculture institutes, National Health institutes for the studies on human health, Sea Centers that welcome general public for studies on consumers behaviour, existing pellet food producers for know-how.</p> <p>When : ASAP</p> <p>How : studies on the chemical (nutrients, metals, pesticides, drugs...) and bacteriological composition of the byproducts and of the food obtained, in situ (farms) production tests</p> <p>Facilitating factors : raise awareness on the differences between feeding a cow (grasseater) with kettle byproducts, and feeding a fish (fish eater) with fish. get more support from the authorities for reconsidering the legal question.</p>	1
25	Realize in marine and coastal regions cooking classes and/or guided tasting events organized in collaboration with chefs and fishermen's wives finalized to disseminate the local and traditional dishes of maritime cuisine	The growing interest for cuisine could be an important tool and example of responsible and sustainable tourism to increase the knowledge and respecting of cultural heritage of maritime regions of Europe. The knowledge of the traditional dishes based on consumption of local and seasonal halieutic products and in many cases of less known species can represent an example of responsible tourism able to contribute to sustainable development of coastal zones. The proposed actions consist in organizing courses or single events in collaboration between local chefs and fishermen's wives with the objective of valorize at the same time the local halieutic production and culinary culture. This action could obtain two goals: enforce the local and traditional cultural heritage and sustain the fishing production. It could support the sustainable development in its different dimensions: cultural, social and economic.	1
26	Educating the public	I believe one of the most attractive and prominent features of areas like northwestern France is the chance to enjoy the coastline and connect with the sea, and for most of us, this includes experiencing the local seafood. Maritime cuisine is a critical part of both culture	7

		and coastal tourism, and without it both would suffer.	
27	Organise a “discover a new fish” day every week during the high season	With a group of restaurant owners and chefs, the idea is to decide of a day during which all the restaurants of the partnership will propose a special menu with a local and seasonal commonly unknown fish during the high season. It would be an event easy to present to tourists in tourism offices, museums, and all other touristic places. A leaflet could be designed for every customer participating to this event, or a place mat in order to explain the importance of sustainable consumption of seafood. Restaurant owners could also set an agreement with fishermen for this special day so that fishermen can be ready to answer their demand. The MrGoodFish seasonal lists can be a good tool to implement such a thing, as they already do a part of the job needed. It could be good tool as it is not really restrictive for restaurant owners and chefs and it can target tourists not really aware of sustainable development and unwilling to do a special activity on the topic.	1
28	Exchange programs between schools	Local schools on the coast could get involved in exchange programs with foreign schools. Instead of attending classic school courses, students could learn about the marine and maritime sectors of the region with regard to sustainable development. It would be important to present all kinds of different domains to meet all students’ interests, to make visits to different sites (nature, aquaculture...), to eat local food, to meet local people ... It should be fun for them. Foreign students (= future tourists) will then have a personal connection with this region and know about sustainable production and consumption. The partnership between schools needs to be enforced and the communication between them should be strengthened. Facilitating factors: EU funding programs Exchange Programs Local institutions that offer appropriate training for foreign students (local schools, citizen organisations...) Local students should get involved with the foreign students.	3
29	Go on working on the cleaning of the seas from pollution in order to enable the seas themselves to be more productive	Pollution of the seas is a problem that seriously threatens the possibility for the fish to live and multiply in those specific areas. In this way the productivity of the seas is reduced and as a consequence the work for the fishermen. Restaurant managers are obliged to buy fish from other areas of the world where there is also a different and a wider legislation to cover this topic. Considering the possibility of guaranteeing a benefit to the producers while collecting plastics and various pollution in the seas will help everybody to develop the productivity of the seas and the development of business.	1
30	Building a competitive and sustainable tourism offer	Making the difference, through a sustainable offer and advice, through the promotion of positive initiatives, can be the key for a competitive and sustainable coastal and maritime tourism in Europe. There are different ways of promoting a destination through a sustainable point of view giving value to the destination: > On booking and touristic websites, creating a dedicated page allowing web visitors to find easily sustainable accommodation, sustainable activities, sustainable restaurants, places to visit. Positive initiatives would also be mentioned: a positive list, like Mr.Goodfish program, which would also raise awareness of professional people to adapt their offer if they wish to be mentioned on this list. > For tourists, it could be to “offer” them something to reward them of doing this choice, as a first step towards good choices: a free tasting in a restaurant, a discount when buying a product on the fish market, a gift (recipe book)...	1
31	Work on a concept close to the French AMAP (community-supported agriculture) for seafood products fished by local fishermen	Work on a concept close to the French AMAP (community-supported agriculture - association that sells "surprise" fish baskets to their members) for seafood products fished by local fishermen, which could be distributed in a defined network of hôtels/restaurants but also other local distribution markets. We would need to engage chefs so that they are willing to work with local products, not knowing in advance what the fishermen bring back each they go at sea.	5
32	Ecofriendly catering	In Copenhagen they have that "papiroen" place. An old paper warehouse, turned into a food truck factory. Lots of food from all over the world. Local producers. All respect a quality chart, labels and certifications. Place was packed with tourists. They certainly enjoy affordable organic food and local products when visiting an area	2

33	Public transports	Access to food means decent public transports. Food tourism could be implemented. A shuttle leading to main food related areas. companies visits (from producers to consumers) and then enjoying the food. The public transports would indeed help tourism and could benefit the workforce too (in Boulogne, zero transport to access the capecure area).	0
34	Create seafood producers organizations	Not specified	3

***12.3 Appendix 3: A list of materials for recruiting participants and promoting the workshop.***

12.3.1 [Invitation letter](#)

12.3.2 [Hot topic brochure](#)

12.3.3 [Announcements](#)

12.3.4 Poster in [English](#) and [French](#)

12.3.5 Press release in [English](#), [French](#) and [Dutch](#)

12.3.6 [Guidelines for the MARINA platform](#)

***12.4 Appendix 4: A list of audio-visual material resulting from the workshop***

12.4.1 [Webcast](#)

12.4.2 Photographs: under “Maritime Cuisine Meets Sustainable Tourism” event in the event section on the MARINA platform