AQUAMED

AQUAMED THE FUTURE OF RESEARCH ON AQUACULTURE IN THE MEDITERRANEAN REGION

REPORT

2nd Open Multi-Stakeholder Platform Meeting

Istanbul, Turkey, 20 - 21 May 2012

Authors: Giovanna Marino, Emma Bello-Gomez, Jean-Paul Blancheton, Myriam Callier, George Rigos, Alistair Lane, Pablo Avila-Zaragoza, Ilaria Vielmini, Soukaina Zizah, Noam Mozes

Contributors: Syndhia Mathe

The Future of Research on Aquaculture in the Mediterranean Region

REPORT

AQUAMED 2nd Open Multi-Stakeholder Meeting

Istanbul, Turkey,
20th & 21st May 2012

Project number 244999
Start date June 1st, 2010
Duration 36 months

WP 7
Research Needs and Recommendations

WP 9
Setting Multi-Stakeholder Platform

Authors
Giovanna Marino, Emma Bello-Gomez, Jean-Paul Blancheton, Myriam Callier, George Rigos, Alistair Lane, Pablo Avila-Zaragoza, Ilaria Vielmini, Soukaina Zizah, Noam Mozes

Contributors
Syndhia Mathe

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1. BACKGROUND INFORMATION ABOUT THE AQUAMED PROJECT AND THE MULTI-STAKEHOLDER PLATFORM (MSHP) FOR AQUACULTURE IN THE MEDITERRANEAN REGION

AQUAMED is a European Commission-funded support action that aims to develop a cross-functional strategy for sustainable aquaculture research in the Mediterranean region. Its objectives are to contribute to the strengthening of links between the main research institutes and key stakeholders in the entire Mediterranean region, and to promote innovation, addressing the main issues for the development of a sustainable aquaculture. This will be accomplished by bringing together aquaculture stakeholders across the Mediterranean (Southern Europe and North Africa) with the overall objective to set up a Multi-Stakeholder Platform (MSHP) that will be used to identify and prioritise research needs for a sustainable Mediterranean aquaculture industry.

The MSHP will contribute to the development of a common transnational Mediterranean Strategic Research and Innovation Agenda (SRIA), which represents the shared objectives of, and synergies between, the different countries participating. Once a SRIA is developed, it is expected that the MSHP will become operational to promote and facilitate the mobilisation of resources (financial, man-power, infrastructure) in order to implement the SRIA.

By bringing together stakeholders to develop research priorities, it is intended to ensure that future research funding is strategic, coordinated and orientated towards the biggest challenges of the production sector whilst respecting the principles of sustainability. It is expected that an operational platform with a common vision will be better able pool the limited resources available and target them towards strategic priorities.

It is also expected that the MSHP will help to bridge the gap between research, policy/governance and commercial development. Connecting these areas will improve the sharing and transfer of knowledge between interested parties, thereby ensuring that innovative applications are generated from research knowledge.

The AQUAMED 1st Open Multi-Stakeholder Platform Meeting took place in Rome, Italy, on 20-21 November 2012. The summary and full reports can be downloaded **here**.

The 2nd AQUAMED Multi-Stakeholder Platform meeting was held in Istanbul, Turkey, on 20-21 May 2013. More than 50 stakeholders from industry, government, NGO and research sectors from 13 Mediterranean countries (Algeria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Morocco, Spain, Tunisia, Turkey), along with 20 members and observers from the AQUAMED project attended the meeting (Fig 1).

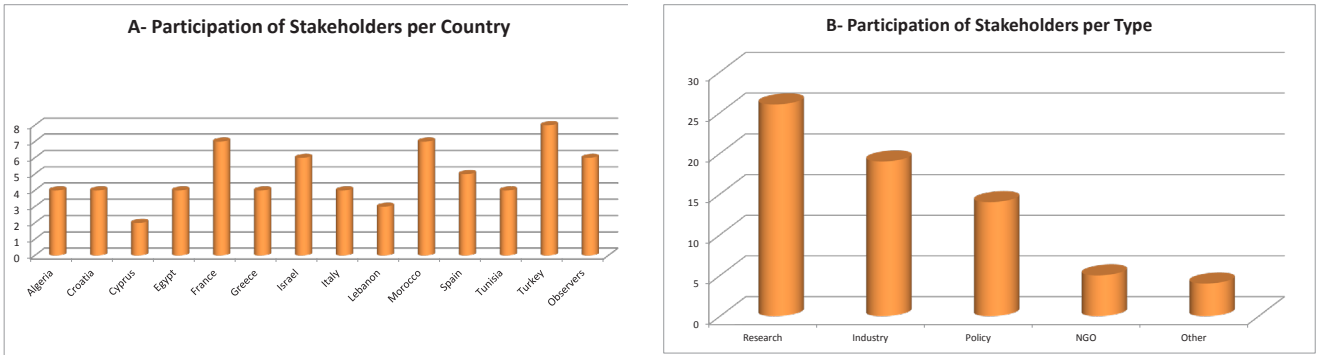


Figure 1: Participation in the MSHP: A - per country, B - per type

The focus of the 2nd meeting was on working together with the stakeholders on a Plan of Action (POA) that will help to overcome the main constraints for aquaculture in the Mediterranean region. These constraints were identified through an online survey completed by more than 100 stakeholders from the Mediterranean region, and then linked to the related goals and sub-goals. Another objective of the meeting was to identify ways to guarantee the sustainability of the platform. The stakeholders worked together to generate ideas and make proposals for the sustainability of the MSHP and how it could help to increase the political commitment for aquaculture at regional/national level and promote professional associations in the aquaculture chain.

The present report summarises the inputs and contributions from the stakeholders during the AQUAMED 2nd Open Multi-Stakeholder Platform Meeting.

2. INTRODUCTION TO THE WORKSHOP METHODOLOGY

During the first session, a brief presentation about the AQUAMED project was given by Jean-Paul Blancheton, AQUAMED project coordinator, highlighting the main objectives of the project and the results obtained so far. The objectives of the AQUAMED MSHP for Mediterranean aquaculture and the second meeting were also presented by Noam Mozes:

- The AQUAMED Project. **This presentation can be downloaded here**.
- Mediterranean Multi-Stakeholder Platform (MSHP) for Aquaculture Research. **This presentation can be downloaded here**.

3. SUMMARY OF THE 1ST AQUAMED MULTI-STAKEHOLDER PLATFORM MEETING IN ROME, ITALY

George Rigos presented the results obtained during the 1st AQUAMED Multi-Stakeholder Platform Meeting which was held in Rome, Italy, on 21-22 November 2012. **This presentation can be downloaded here**.

4. OVERVIEW OF THE AQUACULTURE SECTOR AND FUTURE TRENDS BASED ON THE RESULTS OF THE ONLINE STAKEHOLDER CONSULTATION

Giovanna Marino gave an overview on the current situation and expected future trends of the aquaculture sector in the next 20 years, based on the perception of stakeholders (industry, research, governmental and non-governmental organisations, associations and others) involved in the online consultation carried out in the Mediterranean region. The purpose was not to predict how aquaculture might develop, but to use the projections from stakeholders to reflect on what change would be expected by 2030 and the future implications these changes might have with respect to use of natural resources and potential environmental social and economic impact. **This presentation can be downloaded here**.

5. RECOMMENDATIONS FOR THE PLAN OF ACTION (POA)

Giovanna Marino presented the approach utilised to build the POA in the AQUAMED project. The POA was based on the results of the online consultation and the top constraints, goals and sub-goals identified at Mediterranean level and for aquaculture subsectors (freshwater and marine finfish aquaculture, shellfish). The main constraints prioritised by stakeholders have been selected and linked with the main goals and sub-goals that are necessary to achieve in order to overcome the constraint (see exercise 1). Eight selected constraints and associated goals and sub-goals were presented to the stakeholders participating in the AQUAMED 2nd Open Multi-Stakeholder Platform Meeting. The stakeholders were then divided into eight working groups and invited to identify the main activities necessary to achieve the goals and to building up the POA. **This presentation can be downloaded here**.

6. EXERCISE 1: DRAFTING THE PLAN OF ACTION (POA)

Eight Working Groups (WGs) were created based on the main constraints and related goals and sub-goals:

WG 1 - Simplify Administrative Procedure for Licensing

WG 2 - Spatial Planning for Aquaculture Development

WG 3 - Policy for Market and Consumers

WG 4 - Sustainable Feed

WG 5 - Environment and Food Safety

WG 6 - Knowledge Management and Transfer

WG 7 - Disease Management in Aquaculture

WG 8 - Environmental Management and Governance

The stakeholders were asked to choose the three of the WGs where they wanted to work. There was one facilitator per table, who explained to the WG how to build each sub-goal identified. The stakeholders were asked to come up with at least two activities for at least two sub-goals per WG. This exercise was carried out in three rounds where the stakeholders had to work on three main constraints as follows:

1. ROUND 1: The stakeholders worked on the constraint they had chosen for two hours. At the end of the exercise the POA was built for at least two sub-goals.

2. ROUND 2: The stakeholders were asked to change tables and work on another constraint for forty-five minutes. They had to build upon the POA developed by the previous group.

3. ROUND 3: As in Round 2 the stakeholders had to change table again and work on a different constraint, building upon the POA developed by the two previous groups. For this third round they had 30 minutes.

The activity types were defined as: Policy Action (PA), Technology Transfer (TT), Research (RTD) and Other (OT).

The results per WG are shown below:

6.1.WG 1 - SIMPLIFY ADMINISTRATIVE PROCEDURE FOR LICENSING

CONSTRAINT CATEGORY: GOVERNANCE- ADMINISTRATION

WG1 dealt with the top constraint (1) "Long time to complete licence/authorisation procedure" (see figure 2 and table 1 below). This constraint had the following associated constraints:

- Overlapping of many legislations and Ministries
- Lack of a single administrative body in charge of aquaculture
- Bureaucracy costs
- Local differences in the application of laws and procedures
- Limited license period

The main related goals were: i) to develop policy for national aquaculture and ii) to guarantee the integration of aquaculture activities and aquaculture management policy with the national and European legislative frameworks. In order to achieve these goals, three sub-goals were identified and activities to achieve the sub-goals were proposed by the stakeholders during the meeting:

1. Support the simplification of administrative procedure

This was ranked as the most important constraint limiting the development of a sustainable aquaculture industry. It affects not only the producers, who in some cases have to wait a long time to get licences, but also the administrators who, in most cases, have to deal with long and complicated procedures involving many decision makers. As taken from the survey performed by Centro Tecnólogico del Mar (CETMAR) under General Fisheries Commission for the Mediterranean Committee on Aquaculture (GFCM-CAQ) supervision, the Mediterranean shows a great variety of situations concerning laws and regulations on aquaculture. Very few countries have developed a specific law for aquaculture; the majority have a common fisheries and aquaculture law and some of them have no law for aquaculture. Aquaculture planning is also related to the availability of regulations, but in most cases Mediterranean countries have no planning for the activity. Concerning the number of different authorities involved in licensing procedure, different situations are found at regional and national level. There are countries with only three authorities and others with more than seven. This is an addition to the complexity of the systems; the average period to obtain a license varies from six up to twenty four months. The situation at Mediterranean level concerning licensing and administrative procedures is quite complex and actions should be taken towards their harmonisation and simplification.

Two complementary activities have been identified related to this first sub-goal:

- **Activity 1.1 Collection and harmonisation of laws and procedures (PA):** An exercise with similar objectives was carried out in a CAQ-CETMAR study in order to identify procedures, regulations and laws and authorities involved in the administrative procedures. The aim was to implement the concept of a single window to centralise all the projects as well as only one application form that covers all requirements. The first group considered that the gathering of this information, and the analysis and outputs has to be done by a multi-stakeholder committee. The second group suggested that it should be done by a team of experts, as the information on laws and regulations is quite specific. A consensus should be reached among authorities and groups of experts.

- **Activity 1.2 Guide to administrative procedures (PA):** The necessity of formulating a guide for administrative procedures to help promoters and administrative staff was recommended by the participants. While the process of standardisation and simplification of procedures outlined in Activity 1.1 takes place, it would be useful to develop a tool which takes into consideration the actual laws and procedures.

2. Regulation of aquaculture activities according to national and European Legislation.

This issue is considered to be especially important for non-European countries that wish to export to the EU market. Many European regulations are only implemented in EU countries, but affect the whole Mediterranean and constitute administrative barriers.

- **Activity 2.1 Guidelines for EU directives and policies for EU and non-EU countries (PA):** This PA is a first step towards the awareness of EU policies and directives. Both member and non-member countries expressed the need for gathering all information concerning directives, in order to have a clear picture of the laws affecting aquaculture activity. Therefore the development of guidelines is considered as necessary at national and regional level. A team of experts should carry out this task.

3. Identification of criteria for site selection and monitoring of aquaculture (This activity is common to WG2, activity 1)

Site selection is one of the main issues for the development of sustainable aquaculture in the Mediterranean. As stated by the European Commission the problem of space is one of the main constraints for the expansion of activity in this sector. In addition to the selection of the correct site, space sharing and interactions among users are crucial for the sustainability of the activity. A site selection process is needed for aquaculture planning, in order to have a clear picture of the dimension and scope of the sector. The identification of criteria for the site selection process is one of the basic steps. It has been developed by the GFCM-CAQ as part of the ShockMed project and Allocated Zones for Aquaculture (AZA) guidelines, and implemented in national policies in several EU and non EU countries (Region of Andalucia, Spain, Turkey, Tunisia). The criteria have been established from the administrative and environmental point of view, and in order to avoid conflicts of use, they focus the environmental studies on sites that are free of conflicts. Once aquaculture activities are established, monitoring is needed in order to assess the performance of the activity regarding sustainability objectives. Monitoring activities concern not only the environmental performance but also the economic and social aspects of the sector. Governance, issues related to the implementation of laws and regulations, and flexibility of the norms have to be considered to move smoothly towards sustainability.

Two activities have been identified relating to this sub-goal:

- **Activity 3.1 Research on identification of criteria for site selection, carrying capacity (CC) studies, Geographic Information Systems (GIS), monitoring network (RTD):** This activity constitutes a whole set of actions directly related to the sub-goal. Setting up criteria for site selection involves the four dimensions of sustainability: economic, social, governance and environmental. CC is needed in order to assess the potential aquaculture production. It needs to be linked with the economic viability and social acceptance of the activity in the selected area. GIS should be used in order to gather and combine the available information. Monitoring includes several phases, from the identification of the national authority, to the identification of criteria and parameters to be analysed, and timing. This work needs to be done by a multifunctional team of experts.

- **Activity 3.2 Aquaculture Planning (PA):** This PA is needed in order to assure the sustainability of the aquaculture sector. It is linked to the previous activity and based on the previous works, and should also be based on the aquaculture strategy defined by each country. This activity should be carried out by a multi-stakeholder committee supported by experts.

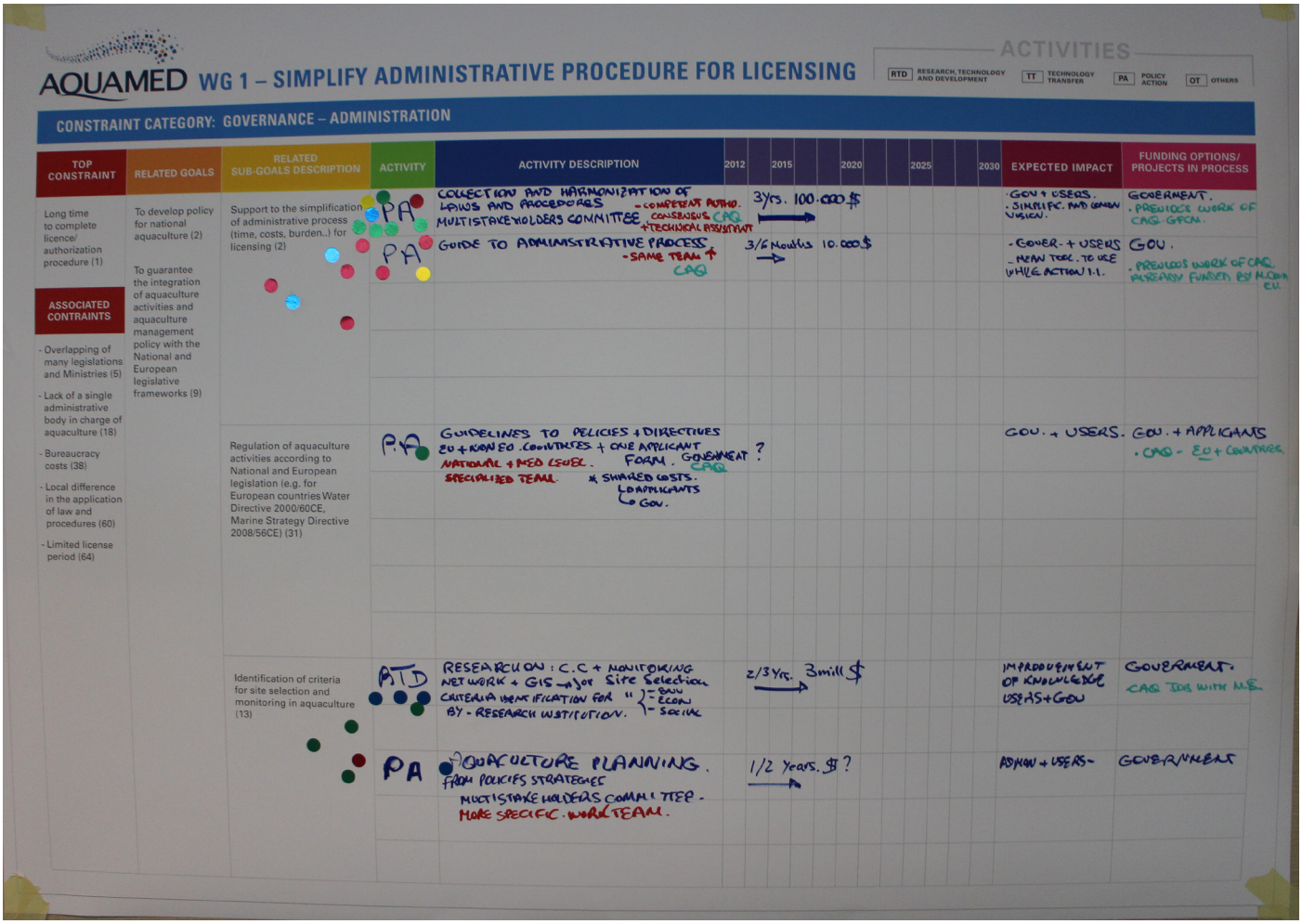


Figure 2: Plan of Action for WG 1 – Simplify Administrative Procedure for Licensing

Table 1: Plan of Action for WG 1 – Simplify Administrative Procedure for Licensing (this table contains the information of the figure above)

Top Constraint	Related Goals	Related Sub-goals	Activity	Activity description	Timeline (Year)			Expected Impact	Funding Options/ Projects in Process
					2013	2014	2015		
Long time to complete licence/authorisation procedure **Associated Constraints:** • Overlapping of many legislations and Ministries • Lack of a single administrative body in charge of aquaculture • Bureaucracy costs • Local difference in the application of law and procedures • Limited licence period	To develop policy for national aquaculture To guarantee the integration of aquaculture activities and aquaculture management policy with national and European legislative frameworks	Support the simplification of administrative process (time, costs, burden, etc.) for licensing	PA	• Collection and harmonisation of laws and procedures • Multi-stakeholder committee • Competent authority/ consensus/ technical assistance	€1 million 3 years			Government and users Simplification and common vision	Government, previous work of CAQ-GFCM (Shock Med project) Already funded by EU
			PA	Guide to administrative process	€100,000 3-6 mths			Government and users Main tool to use during action 1.1	Government, previous work of CAQ-GFCM (Shock Med project) Already funded by EU
		Regulation of aquaculture activities according to national and European legislation (e.g. for European countries: Water Directive 2000/60CE, Marine Strategy Directive 2008/56CE)	PA	• Guidelines to policies and directives for EU and non-EU countries • One application form • National and Mediterranean level specialised team (Shared costs: government and applicant)				Government and users	Government and Applicants, CAQ-EU and countries
		Identification of criteria for site selection and monitoring in aquaculture	RTD	• Research on CC, monitoring network and GIS for site selection • Criteria identification for environmental, economic, social dimensions by research institution	€1 million 2-3 years			Government and users Improvement of knowledge	Government, CAQ with GFCM countries
			PA	• Aquaculture planning from policy strategies • Multi-stakeholder committee (more specific work team)	€1 million 1-2 years			Administration and users	Government

6.2.WG 2 - SPATIAL PLANNING FOR AQUACULTURE DEVELOPMENT
CONSTRAINT CATEGORY: GOVERNANCE-POLICIES

WG 2 dealt with the constraint "Lack of long-term spatial planning for aquaculture development" (see figure 3 and table 2 below). This constraint was ranked as the second most important by the stakeholders and had the following associated constraints:

- Limited space/land availability
- Limited water resources availability

The main related goals are: i) to develop policy for national aquaculture, ii) to reduce conflicts over space between aquaculture and other human activities (territorial planning), iii) to guarantee the integration of aquaculture activities and aquaculture management policy with the National and European legislative frameworks and iv) to develop or adapt tools and measures in support of appropriate environmental governance for aquaculture. In order to achieve these goals, four sub-goals were identified and activities to achieve the sub-goals were proposed by the stakeholders during the meeting:

1. **Support to the territorial planning and to the identification of allocated zones for aquaculture**

The concept of AZA, worked out in the framework of the Food and Agriculture Organisation of the United Nations (FAO)/GFCM, is a planning and management tool which aims to reduce conflicts in the coastal zone, improving the management of aquaculture and preserving sensitive habitats. The AZA strategy has been adopted as a planning principle for the Mediterranean and Black Sea by GFCM (GFCM Resolution, 36 2012-1) and it is considered an immediate priority for the responsible development and management of aquaculture activities at regional level. It has also been proposed as a key element of the Ecosystem Approach for aquaculture by FAO, which requires the understanding of how an ecosystem functions and the development of strategies capable of integrating different sectors including aquaculture, especially in terms of shared agreed objectives and standards (Soto, 2008).

AZA, as a tool for spatial planning, has been defined as, "a zone where aquaculture has priority over other uses of the sea". However, the close interaction of aquaculture with its surrounding environment, the potential negative interactions among farms within an AZA and the nature of the environmental, economic and social interactions, make it necessary to plan, develop and manage AZA in a manner that considers the multiple needs and desires of societies. Coordinated spatial planning can help to reduce uncertainty, facilitate investment and speed up the development of sectors (COM 223 2013) in both marine and freshwater aquaculture. In marine waters it helps the identification of the most suitable sites for aquaculture, as the current surface and coastline occupation by aquaculture activities appears to be limited (JRC, 2012). In freshwater it will help to preserve habitat, biodiversity and conservation objectives in Natura 2000 sites, while enhancing production.

- **Activity 1.1 Establishment of National Aquaculture Strategy (Inter-ministerial arbitration): a need for one authority in charge of spatial planning (PA)**
- **Activity 1.2 Need to identify one window for spatial planning (PA/TT)**
- **Activity 1.3 Communication Action: gain national support (National willingness) (OT)**
- **Activity 1.4 Mediterranean planning (Market, common label) (PA)**
- **Activity 1.5 Capacity building in socio-economic research(Governance, etc) (OT)**

2. Identification of criteria for site selection and monitoring in aquaculture

- **Activity 2.1 Definition of AZA (RTD)**
- **Activity 2.2 Definition of site selection process (RTD)**
- **Activity 2.3 Establishment of criteria for site selection (Economic, social and Environmental) within AZA framework (RTD)**
- **Activity 2.4 Risk Analysis (RTD)**
- **Activity 2.5 Scientific support to develop appropriate decision making tools for AZA implementation (RTD/PA)**
- **Activity 2.6 Integrate the impact of aquaculture on small fisheries (OT)**

3. Use and development of chemical/biological indicators of environmental quality

- **Activity 3.1 Validation and adoption of criteria of site selection among stakeholders (PA/OT)**
- **Activity 3.2 Case study according to existing experience (eg. Turkey, Spain) (RTD)**
- **Activity 3.3 Design of monitoring plan for AZA (Before, during and after a aquaculture project) (RTD)**
- **Activity 3.4 Integration of information and data into a legal framework (PA)**

4. Development of mathematical models for the prediction and estimation of potential environmental impact:

- **For marine finfish aquaculture**
- **For shellfish aquaculture**
- **The stakeholders did not complete this sub-goal as they considered the other three more critical.**

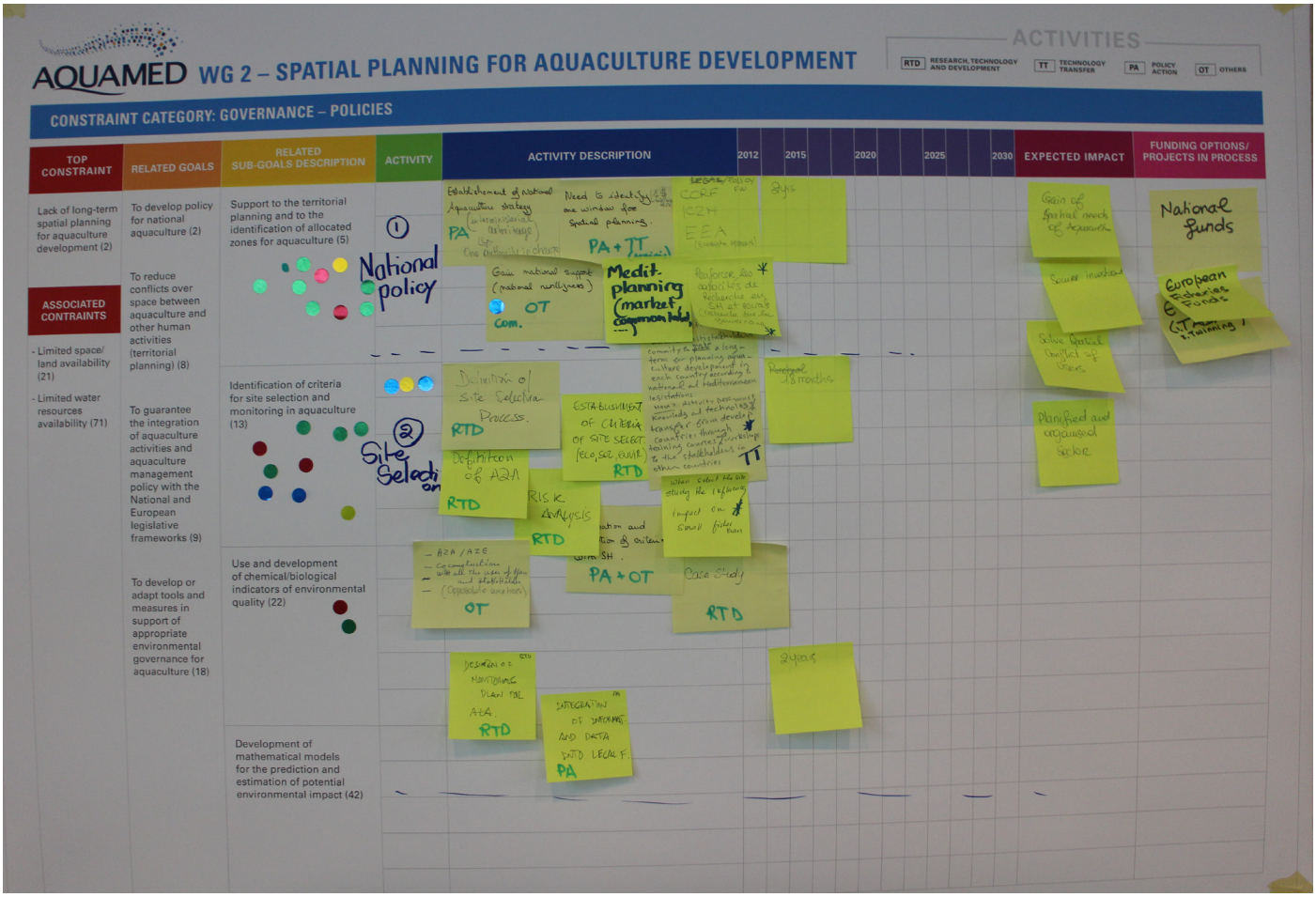


Figure 3: Plan of Action for WG 2 – Spatial Planning for Aquaculture Development

Table 2: Plan of Action for WG 2 – Spatial Planning for Aquaculture Development (this table contains the information of the figure above)

Top Constraint	Related Goals	Related Sub-goals	Activity	Activity description	Timeline (Year)			Expected Impact	Funding Options/ Projects
					2013	2014	2015		
Lack of long-term spatial planning for aquaculture development **Associated Constraints** • Limited space/land availability • Limited water resources availability	To develop policy for national aquaculture To reduce conflicts over space between aquaculture and other human activities (territorial planning) To guarantee the integration of aquaculture activities and aquaculture management policy with the National and European legislative frameworks To develop or adapt tools and measures in support of appropriate environmental governance for aquaculture	Support territorial planning and the identification of AZA	PA	Establishment of National Aquaculture Strategy (Inter-ministerial arbitration): need for one authority in charge of spatial planning	3 years			Spatial planning strategy and develop decision making tools	National Funds
			PA/TT	Need to identify one window for spatial planning	3 years			Gain of spatial needs of aquaculture	
			OT	Communication Action: Gain National Support (National willingness)	3 years			Secure investment	European Fisheries Funds and National Funds
			PA	Mediterranean planning (Market, common label)	3 years			Solve spatial conflict of users	(Twinning, etc)
			OT	Capacity building in socio-economic research (Governance, etc)	3 years			Planned and organized sector	
		Identification of criteria for site selection and monitoring in aquaculture See WG 2.1 Research on CC	RTD	Definition of site selection process	3 years				
			RTD	Definition of AZA	3 years			Government and Users Improvement of knowledge	GOV CAQ with MS 2-3 years
			RTD/PA	Scientific support to develop appropriate decision making tools for AZA implementation	3 years				
			RTD	Establishment of criteria for site selection (economic, social and environmental), GIS for site selection, Monitoring network, Criteria identification for environmental, economic, social by research institution	3 years				
			RTD	Risk Analysis	3 years				
			OT	IIntegrate the impact of aquaculture on small fisheries	3 years				
		Use and development of chemical/biological indicators of environmental quality	PA/OT	Validation and adoption of criteria of site selection among stakeholders	3 years				
			RTD	Case study and Allowable Zone of Effect (AZE) identification	3 years				
			RTD	Design of monitoring plan for AZA	3 years				
			PA	Integration of information and data into a legal framework	3 years				
		Development of mathematical models for the prediction and estimation of potential environmental impact	**Not completed**						

6.3. WG 3 - POLICY FOR MARKET AND CONSUMERS
CONSTRAINT CATEGORY: POLICIES – MARKET

The objective of group discussion was to define actions that address these constraints and support the goals of better understanding the dynamics of the Mediterranean market; knowing more about consumer perceptions and choices and targeting communication to specific end-users.

The overriding principal is that much of the production is targeted towards a common market (Europe), so that actions should be focused on that market but should also take into consideration the specificities of the Mediterranean region and its national heterogeneity.

Several actions were identified which fit into four core areas:

1. Market intelligence

Understanding the dynamics of the market, through a national and regional analysis, was considered to be an important activity. It could use the same financial indicators that have been tested and proposed for the European aquaculture observatory and could supplement data already collected by other organisations and networks in the region. Care would be needed to ovoid overlap.

This could lead to the development and sharing of a National Operating Plan for aquaculture development which would be integrated into a regional plan. This will provide good evidence to support a review of legislation affecting the markets across the region, including trade and non-trade barriers to access to the European market, including competition with third party countries exporting to Europe. Further harmonisation on import duties (for feed and juveniles) would also help to 'level the playing field' for countries of the region.

2. Surveying consumer perception

A short term initial consumer perception study, based on a common template and methodology for all countries, will lead to an overview of consumer behaviour and perception of aquaculture products. Clear dissociation of perception of the 'activity' (rather than the products which are often not labelled as being from aquaculture) will provide information for potential promotion actions. For each of these, a cost benefit analysis will help to balance priorities and resources. The studies would need repeating every three years to maintain validity and measure perception changes.

3. Educating citizens

A lack of knowledge of farmed seafood products is at the heart of consumer perception. Science-based, factual information should therefore be compiled, which:

- Informs consumers on how fish and shellfish are produced in the region;
- Provides clear information on the comparison (gustatory, quality, freshness, nutritive) of farmed and captured fish;

- Shows the ecological footprint of major regional aquaculture species (including resource use, feed conversion efficiency, CO_2 emission, etc.) compared to other animal (beef, poultry) and plant (cereal, vegetable, fruit) production methods;

- Includes farmed products in campaigns that target institutional catering (e.g. army, police, etc.) to increase consumption and knowledge.

Specific policy actions should seek to integrate the teaching of how our food is produced (including aquaculture) into all primary education curricula.

The main objective here is to create a social conscience of the role of aquaculture in providing healthy, nutritious and locally-produced food that creates jobs in rural areas and contributes to our regional societal wellbeing. The inclusion of aquaculture products as part of a world-recognised healthy and 'life-prolonging' Mediterranean diet is also a key message.

4. Strengthening producer organisations

Producer Organisations (POs) across the region should be empowered in order to better manage the offer and demand of their production, working in cooperation (and not competition) across the region. Market information and intelligence, combined with communication material will allow POs to make strategic choices on species selection and product diversification, and could allow the creation of a Federation of Mediterranean Aquaculture Producers in the longer term.

Finally, two other actions were highlighted by the round table. The first, an online portal for Mediterranean aquaculture, would bring together information on the species, technologies, markets and consumption of individual countries of the region. By monitoring the popularity of the different articles/pages of the portal, communication actions could be prioritised. The second action was the creation of an online auction for Mediterranean species, allowing individual companies to propose products and find new buyers.

Figure 4: Plan of Action for WG 3 – Policy for Market and Consumers

Table 3: Plan of Action for WG 3 – Policy for Market and Consumers (this table contains the information of the figure above)

Top Constraint	Related Goals	Related Sub-goals	Activity	Activity description	Timeline (Years)			Expected Impact	Funding Options/ Projects
					2013	2015	2020		
Weak policies on the market **Associated Constrains** • Lack of media campaign for aquaculture (related to benefits and responding to misleading claims) • Market price (unstable, low, high) • Market changes (lack of technological innovation and adaptive capacity)	To better understand the consumers' demand and adapt productions to it To understand the dynamics of Mediterranean seafood markets	Communication and marketing strategies to improve consumer perception and increase the consumption of aquaculture products	OT	Market Intelligence: Understand market dynamics in frame of increasing production costs	€3 million >7 years				Market dynamics also need regular updates, Product reports available
			OT	Market Intelligence: Communicate strategy and planning (e.g. For development of a species). Training, sharing, TT					
			PA	Market Intelligence: Harmonising legislative framework to include market issues and strategies imports					
			PA	Market Intelligence: National operating plan (including market)					
			OT	Portal: Online portal: Data collection, description	€1 million 3 years			Series of actions that reinforce a "regional pride" of farmed products as part of the Mediterranean diet!	
			OT	Portal: Virtual auction					
		New communication strategies to improve the general perception of aquaculture and its products (including social networks and divulgation campaigns)	RTD	• Survey: Consumer survey • Production/Consumption: Pattern identification • Cost/benefit to see if attractive for companies	€1 million for first and then €500,000 EUR every 5 years >7 years				
			PA	Education: Consumer education and school education	€3 million >7 years				
			RTD	Education: Comparison of farmed and wild (Qualities)					
			RTD/TT	Education: "Footprint" of fish vs. meat vs. plants (resources)					
			OT/TT	Education: Institutional catering promotion (media) and campaign (image)					
			TT/PA	Education: Social "conscience" importance of the aquaculture sector (local, jobs)					
			PA/OT	POs: Strengthen Pos	€5-7 million 3-5 years				
			OT	POs: Seafood promotion organisation					
			RTD/PA	POs: Diversification of the offer (products) - Certification/trace. "Origin quality" Mediterranean (Trace)					
			PA/OT	POs: Federation of Mediterranean aquaculture producers					

6.4. WG 4 - SUSTAINABLE FEED
CONSTRAINT CATEGORY: ECONOMIC (FIRST TOP CONSTRAINT FOR BOTH FRESHWATER AND SEAWATER SUB-SECTORS)

One major constraint for industry is the "High Feed Cost". In the 90's, the cost of feed represented 54% of the total production cost (-650/T), nowadays, it represents 70% of the total costs (-1,100/T). The prices of fish meal and fish oil are continuously increasing. Feed producing companies have replaced part of fish meal and fish oil with vegetable oil and protein (e.g. soja), however the price of those alternative sources are also increasing. The use of processed animal proteins (PAT) has been banned in feed since early 90's, however on 1 June 2013, a new EU regulation authorising the use of PAT in the composition of aquafeed came into effect. Some countries in the Mediterranean are worried about this change due to socio-cultural aspects and reluctance of the consumers.

The constraint of sustainable feed is complex as it includes: technical, biological, ethical, cultural, and marketing aspects. This constraint should be tackled at Mediterranean level to find common activities and reach the same goals. Two sub-goals were identified through the surveys: i) Development of technologies and systems to reduce feed cost and ii) to improve feed assimilation and conversion rates. The WG4 group identified six activities to achieve these sub-goals (see figure 5 and table 4 below).

Technologies and system to reduce feed cost

- **Activity 1.1 Find new alternative sources of material to replace fish meal and fish oil in aquafeed composition (RTD):** all stakeholders agreed that the utilisation of algae (micro- and macro-) should be explored as well as other marine resources. Producers are expecting researchers to find new alternatives that could help the aquaculture sector to be self-sustainable. The research activities should focus on: 1) how to optimise the composition of algae (protein, lipid) by controlling the environment (nutrients input), 2) decreasing the cost of production of this algae, 3) evaluation of the effect of the use of marine algae on the health and growth performance of fish. For some stakeholders, the use of Animal Raw Material could be an opportunity to explore, however some other stakeholders believe that it is not a good solution as it is very difficult to control the chain and the consumers may be sceptical.

- **Activity 1.2 Define common MED criteria of product quality and Import Regulation and Duties (PA):** to agree on common quality criteria and common import tax and duties to ensure a level playing-field in the Mediterranean. (However, it was noticed that it will be extremely difficult to control the international market).

To improve feed assimilation and conversion rate

Activity 2.1 Continue research to improve feed conversion rates of already cultivated species (RTD): research in selection, genetic improvement etc.

Activity 2.2 Develop new species with efficient feed conversion rates or herbivorous species (RTD/TT): This research and TT activity should explore the development of new candidate species for aquaculture (e.g. mullet). Limit: consumers' perception and taste (e.g. Croatia thinks that mullet would not sell on the Croatian market).

Activity 2.3 Optimise the use of agriculture raw material available but not used in some countries (TT): to assist the countries which do not have the technology to use the sub-products of agriculture, such as palm tree fruits, etc.

ASSOCIATED CONSTRAINT "Environmental Quality of Fish Feed"

Activity 6 - Environmental Impact Assessment of the sources of feed: Footprint (RTD): To evaluate the impact of the different raw material (e.g. carbon footprint) used in the composition of aquafeed.

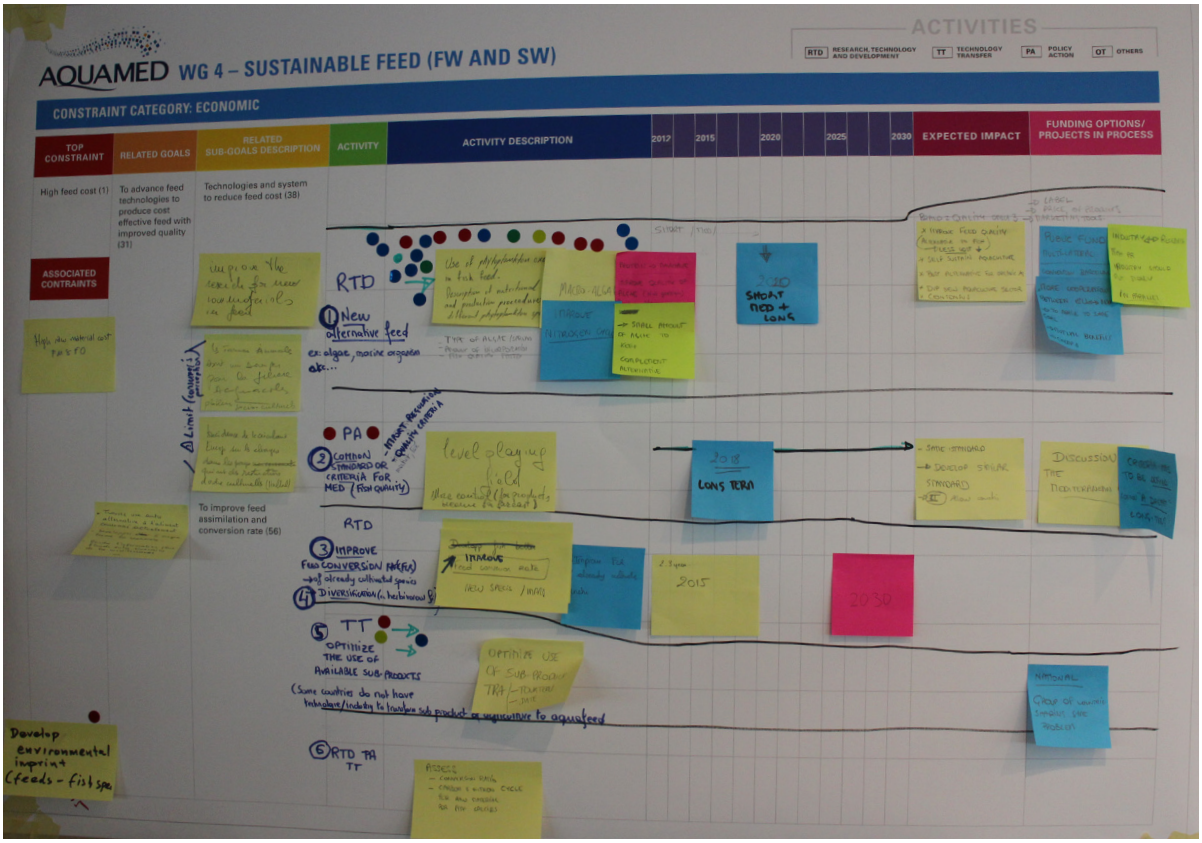


Figure 5: Plan of Action for WG 4 – Sustainable Feed

Table 4: Plan of Action for WG 4 – Sustainable Feed (FW and SW) (this table contains the information of the figure above)

Top Constraint	Related Goals	Related Sub-goals	Activity	Activity description	Timeline (Years)				Expected Impact	Funding Options/ Projects
					2013	2018	2020	2025		
High feed cost	To advance feed technologies to produce cost effective feed with improved quality	Technologies and system to reduce feed cost	RTD	Find new alternative sources of material to replace fish meal and fish oil in aquafeed composition	10 years				Self-sustainable aquaculture (aquaculture producing its own feed), increase feed quality and Omega3 content, compare to terrestrial source, better acceptability and labelling, creation of new aquaculture production sector	This project should be funded at international level and, in parallel, could be privately-funded
			PA	Define common Mediterranean criteria for product quality and import regulation and duties: to agree on common quality criteria and common import tax and duties to ensure a level playing-field in the Mediterranean. (However, it was noticed that it will be extremely difficult to control the international market)	7 years				Improve feed assimilation and conversion rates	Long term, sources of funding not identified
		To improve feed assimilation and conversion rate	RTD	Continue research to improve feed conversion rates of already cultivated species: Research in selection, genetic improvement etc.	2-3 years				Diversification, lower cost of production compared to carnivorous species	
			RTD/TT	Develop new species with efficient feed conversion rates or herbivorous species: This research and TT activity should explore the development of new candidate species for aquaculture (e.g. mullet)					Optimise the use of sub-products	At national or group of countries that share the same problems
			TT	Optimise the use of agriculture raw material available but not used in some countries: Assist the countries which do not have the technology to use the sub-products of agriculture, such as palm tree fruits, etc.					Decrease environmental impact	At regional level
			RTD	Environmental Impact Assessment of the sources of feed: Footprint. Evaluate the impact of the different raw material (e.g. carbon footprint) used in the composition of aquafeed						

6.5. WG 5 – ENVIRONMENT AND FOOD SAFETY
CONSTRAINT CATEGORY: ENVIRONMENT - FOOD SAFETY

WG 5 dealt with the constraint "Pollution threat (other human activities)" (see figure 6 and table 5 below). This constraint had the following associated constraints:

- Algal blooms (and anoxia).

The main related goals are: i) to guarantee products with high quality standards and maximise human health benefits and ii) to guarantee the safety of aquaculture products. In order to achieve these goals, three sub-goals were identified. The activities proposed by the stakeholders during the meeting to overcome the constraints are related to two of the three sub-goals:

1. Prevention and control of contamination (chemical and microbiological) in aquaculture products

This was one of the selected sub-goals chosen by the stakeholders to identify activities that could help to achieve the goals and overcome the constraint. The main activities identified deal with the harmonisation of the methodology for sanitary survey and risk analysis for the entire Mediterranean Region and the implementation of equivalent criteria in the Mediterranean. They also highlighted the importance of the implementation of Integrated Coastal Zone Management (ICZM) and the Water Framework Directive (WFD) or equivalent legislations in the Mediterranean basin. The stakeholders pointed out the need to assess the current situation and risks in the Mediterranean and to develop a risk management plan for the region. Other proposed activities deal with the development of methods and regulations for traceability of aquaculture products, the development of monitoring indicators for shellfish farms and training in environmental monitoring for farmers and policy makers.

- **Activity 1.1 Transfer of knowledge to harmonise the methodology for sanitary survey and risk analysis (TT)**
- **Activity 1.2 Implementation of equivalent criteria in the Mediterranean (PA)**
- **Activity 1.3 Apply ICZM in the coastal areas in the Mediterranean (PA)**
- **Activity 1.4 Build a metadata database on contaminants and parameters(RTD)**
- **Activity 1.5 Share/open a common metadata database of contaminants and parameters (TT)**
- **Activity 1.6 Develop methods for traceability of aquaculture products (RTD)**
- **Activity 1.7 Establish rules and regulations for traceability (PA)**
- **Activity 1.8 Coordination activities to implement the WFD in EU (OT)**
- **Activity 1.9 Develop equivalent legislation (WFD) in non-EU countries (TT)**

- **Activity 1.10 Development of monitoring indicators for shellfish farms in the Mediterranean (RTD)**
- **Activity 1.11 Training in environmental monitoring for farmers and policy (TT)**
- **Activity 1.12 Assess the current situation in the Mediterranean and risks (RTD)**
- **Activity 1.13 Risk management plan for Mediterranean region (PA)**

2. Technologies, analyses and control methods for biotoxin contamination in aquaculture products

This sub-goal deals with the technologies, analyses and control methods for biotoxin contamination in aquaculture products. Five activities were identified by the stakeholders in order to achieve this sub-goal:

- **Activity 2.1 Modelling tools to foresee the spread of contaminants in the Mediterranean (RTD)**
- **Activity 2.2 Study emerging toxins/pathogens(RTD)**
- **Activity 2.3 Equivalent criteria/levels for parameters (OT /TT)**
- **Activity 2.4 Implementation of equivalent criteria/levels for parameters in the Mediterranean (PA)**
- **Activity 2.5 Rapid tests for biotoxins (for farmers)(RTD/TT)**

3. Identification of factors that affect the products' nutritional properties and final quality. Not completed

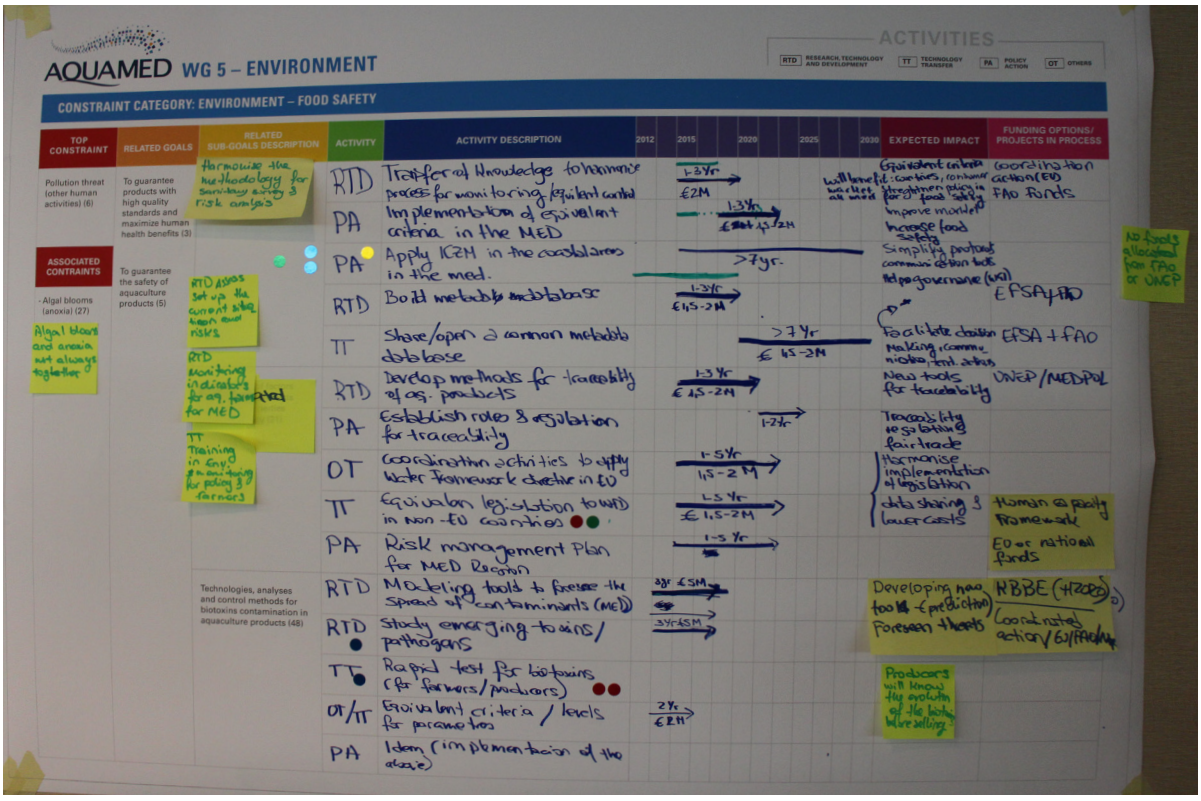


Figure 6: Plan of Action for WG 5 – Environment and Food Safety

Table 5: Plan of Action for WG 5 – Environment (this table contains the information of the figure above)

Top Constraint	Related Goals	Related Sub-goals	Activity	Activity description	Timeline (Years)				Expected Impact	Funding Options/ Projects
					2013	2015	2020	2025		
Pollution threat (other human activities) **Associated Constraints** • Algal blooms (anoxia)	To guarantee products with high quality standards and maximise human health benefits To guarantee the safety of aquaculture products	Prevention and control of contamination in aquaculture products	RTD	Transfer of Knowledge to harmonise the methodology for sanitary survey and risk analysis	€2 million 1-3 years				Equivalent criteria will benefit: countries, consumers, market, strengthen policy in Mediterranean for food safety	Coordination action (Horizon 2020) – EU/ GFCM FAO
			PA	Implementation of equivalent criteria in the Mediterranean		€1.5-2 million 1-3 years			Increase food safety	Coordination action (Horizon 2020) – EU/GFCM FAO
			PA	Apply ICZM in the coastal areas in the Mediterranean	>7 years				Simplify protocols communication tools. Help governance	
			RTD	Build a metadata database of contaminants and parameters	€1.5-2 million 1-3 years				Facilitate decision making, communication, dissemination actions	EFSA, GFCM FAO
			TT	Share/open a common metadata database of contaminants and parameters			€1.5-2 million >7 years		Facilitate decision making, communication, dissemination actions	EFSA,GFCM FAO
			RTD	Assess the current situation in the Mediterranean and risks						
			TT	Training in environmental monitoring for farmers and policy						
			RTD	Development of monitoring indicators for farms in the Mediterranean						
			RTD	Develop methods for traceability of aquaculture products	€1.5-2 million 1-3 years				New tools for traceability	UNEP/MEDPOL
			PA	Establish rules and regulations for traceability		1-2 years			Traceability regulations. Fair trade	
			OT	Coordination activities to apply the WFD in EU	€1.5-2 million 1-5 years				Harmonise implementation of legislation, data sharing and lower costs	
			TT	Develop equivalent legislation (WFD) in non-EU countries	€1.5-2 million 1-5 years				Harmonise implementation of legislation, data sharing and lower costs	Human capacity framework/ EU or national funds
			PA	Risk management plan for Mediterranean Region	€1.5-2 million 1-5 years					
		Technologies, analyses and control methods for biotoxin contamination in aquaculture products	RTD	Modelling tools to foresee the spread of contaminants in the Mediterranean	5 Mill EUR 3 years				Developing new prediction tools to foresee threats	KBBE (Horizon 2020) Coordinated action EU/GFCM FAO
			RTD	Study emerging toxins/ pathogens	€5 million 3 years					
			OT/TT	Equivalent criteria/ levels for parameters		€2 million 2 years				
			PA	Implementation of equivalent criteria/levels for parameters in the Mediterranean	> 7 years					
			TT	Rapid test for bitoxins (for farmers/producers)					Producers will know the evolution of biotoxins before selling the products	
		Identification of factors that affect the products nutritional properties and final quality	**Not completed**							

WG 6 - KNOWLEDGE MANAGEMENT AND TRANSFER
CONSTRAINT CATEGORY: SOCIAL - EXTENSION SERVICE & RESEARCH

WG 6 dealt with the constraint "Inadequate research/farmer/extension linkage" (see figure 7 and table 6 below). This constraint had the following associated constraints:

- Limited research information exchange and technical findings
- Limited documentation to facilitate investment in commercial aquaculture

The main related goals are: i) efficient utilisation of research outputs and knowledge transfer, ii) development of networks at both national and international level, with the involvement of research scientists and stakeholders and iii) to enhance interdisciplinary research projects, scientists' mobility and the training of new professional figures. In order to achieve these goals, two sub-goals were identified and activities to achieve the sub-goals were proposed by the stakeholders during the meeting:

1. Transfer of research outputs to industry

Activity 1.1 Set up a group of economic interest involving industry, research, policy makers (but also economists and consumers associations) (TT). The group shall be in charge of:

- Sub-activity 1.1.1 Organisation of regular meetings between producers and research. The meetings shall be regular and on a long-term scale in order to build trust among the actors involved
- Sub-activity 1.1.2 Appointment of a "translator" (knowledge transfer expert) in charge of reporting to the industry sector about the progresses and achievements in the research sector (and vice versa)
- See Sub-goal: Development of databanks and virtual platforms for research

Activity 1.2 Foreseen "reward" systems for researchers successful in delivering applicable research and including TT indicators in the curricula of researchers (OT)

Activity 1.3 Optimise and speed-up the scale-up of innovations process by industries "renting" researchers and science systems and sharing risks (TT)

Activity 1.4 To carry out activities in pilot sites (or pilot projects) as demonstration (RTD): when the action is successful, it can be demonstrated and replicated (thus reducing the costs)

2. Development of databanks and virtual platforms for research

- **Activity 2.1 The group of economic interest shall set up a data collection system (TT):** In order to reduce barriers in data sharing, the data collection should be organised into two steps: 1) when metadata are requested, and 2) specific data when required. In order to promote data sharing, incentives (not just economical) could be foreseen, such as collaborations and sharing of other data. The data collection should also include databases on technical economical aspects (e.g. technical performs, antibiotic consummation). In order to capture "grey literature" all the stakeholders involved in the group of economic interest should regularly revise and contribute to the database

- **Activity 2.2 MSHP will be in charge of managing the Information System for the Promotion of Aquaculture in the Mediterranean (SIPAM) Database (OT)**

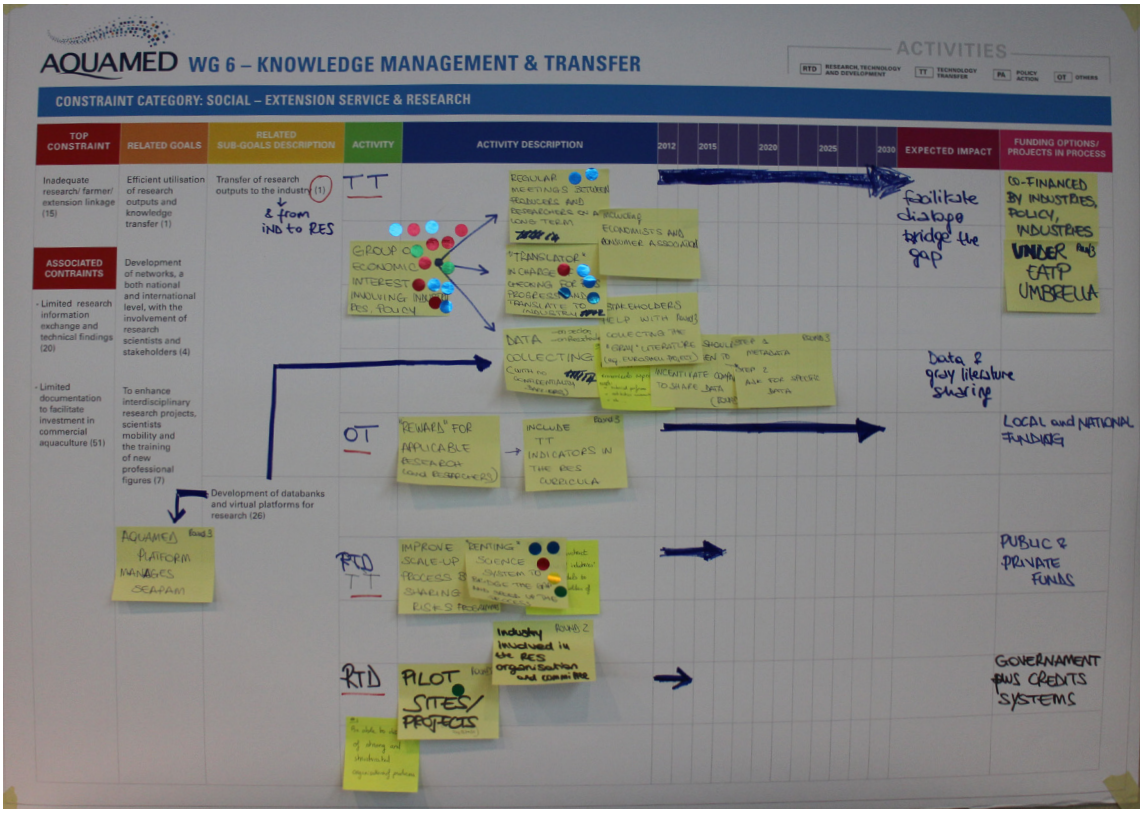


Figure 7: Plan of Action for WG 6 – Knowledge Management and Transfer

Table 6: Plan of Action for WG 6 – Knowledge Management and Transfer (this table contains the information of the figure above)

Top Constraint	Related Goals	Related Sub-goals	Activity	Activity description	Timeline (Years)			Expected Impact	Funding Options/ Projects
					2013	2015	2025		
Inadequate research/ farmer/extension linkage **Associated Constraints:** • Limited research information exchange and technical findings • Limited documentation to facilitate investment in commercial aquaculture	Efficient utilisation of research outputs and knowledge transfer Development of networks, at both national and international level, with the involvement of research scientists and stakeholders To enhance interdisciplinary research projects, scientists mobility and the training of new professional figures	Transfer of research outputs to the industry	TT 1	Set up a group of economic interest involving industry, research, policy makers (but also economists and consumers associations) The group shall be in charge of:	>7 years			Facilitate the dialogue and bridge the gap	Co-financed by industries, policy makers, academia, At EU level the group could be hosted under the FEAP umbrella at Mediterranean level
			sub-TT a	Organisation of regular meetings between producers and research. The meetings shall be regular and on a long-term scale in order to build trust among the actors involved	>7 years				
			sub-TT b	Appointment of a "translator" (knowledge transfer expert) in charge of reporting to the industry sector about the progresses and achievements in the research sector (and vice versa)	>7 years				
			sub-TT c	See Sub-goal: Development of databanks and virtual platforms for research					
			OT	Foreseen "reward" systems for researchers successful in delivering applicable research and include TT indicators in the curricula of researchers	>7 years				Local and national funding
			TT 2	Optimise and speed-up the scale-up of innovations process by industries "renting" researchers and science systems and sharing risks	2 years				Public & private funding (joint venture)
			RTD	To carry out activities in pilot sites (or pilot project) as demonstration - when the action is successful it can be demonstrated and replicated (thus reducing the costs)	2 years				Governmental funding together with credits system
		Development of databanks and virtual platforms for research	sub-TT c	The group of economic interest shall set up a data collection system. In order to reduce barriers in data sharing, the data collection should be organised in two steps: 1) when metadata are requested, and 2) when specific data are required. In order to promote data sharing, incentives (not just economical) could be foreseen - such as collaborations and sharing of other data. The data collection should also include databases on technical- economical aspects (e.g. technical performs, antibiotic consummation). In order to capture "grey literature", all the stakeholders involved in the group of economic interest should regularly revise and contribute to the database	>7 years			Knowledge shared in a more flexible way (both scientific data and grey literature)	(same as TT 1)
			OT	AQUAMED being in charge of managing SIPAM Platform	>7 years			Facilitate the dialogue and bridge the gap	Co-financed by industries, policy makers, academia, At EU level the group could be hosted under the FEAP umbrella

6.7. WG 7 - DISEASE MANAGEMENT IN AQUACULTURE
CONSTRAINT CATEGORY: TECHNICAL/DISEASE

WG 7 dealt with the constraint "Increasing/emerging disease" (see figure 8 and table 7 below). This constraint had the following associated constraint:

- low availability of vaccines and therapeutics

The main related goals are: i) to enhance health and resistance to pathogens and ii) to improve diagnostic tools, control and prevention of pathologies. In order to achieve these goals, four sub-goals were identified and activities to achieve the sub-goals were proposed by the stakeholders during the meeting:

1. Research on epidemiology of aquatic animal pathologies (bacteria, viruses, parasites) and risk analysis

- **Activity 1.1 Preparing a database - list of relevant pathogens according to the risk (TT)**
- **Activity 1.2 Monitoring and identifying new diseases and diseases with changing pathogenicity (RTD)**
- **Activity 1.3 Use of novel techniques to study the interactions of fish and pathogens (RTD)**
- **Activity 1.4 Training on site - Networking (TT)**
- **Activity 1.5 Updating and revising disease annexes at EU level (PA)**

2. Development of systems for the early diagnosis of pathogens

- **Activity 2.1 Development of advanced, cost effective, rapid and non-lethal diagnostic tools which could detect important pathogens in both fish and surrounding water at early infection stages (RTD)**
- **Activity 2.2 Transfer and harmonisation methodology also implemented to reference labs (TT)**

3. Technologies and systems to reduce the incidence of disease/parasite infestations

- **Activity 3.1 Genetic selection towards increased immunity of aquatic organisms (RTD)**

- **Activity 3.2 Development of new vaccines & vaccination methods, implementation of auto vaccines-development of new therapeutics (RTD)**

- **Activity 3.3 New technologies for biosecure facilities (RTD)**

- **Activity 3.4 Establishment of policies for use of quarantine (PA)**

- **Activity 3.5 Simplifying the registration of existing therapeutics used in other production systems-adaptation also to N. African countries (PA)**

To improve access to field data with the possibility of building a transparent surveillance and reporting network for fish infections/diseases and their treatment to Regulatory Authorities.

- **Activity 4.1 Establishment of internal standardised protocol for disease prevention at farm level (RTD)**

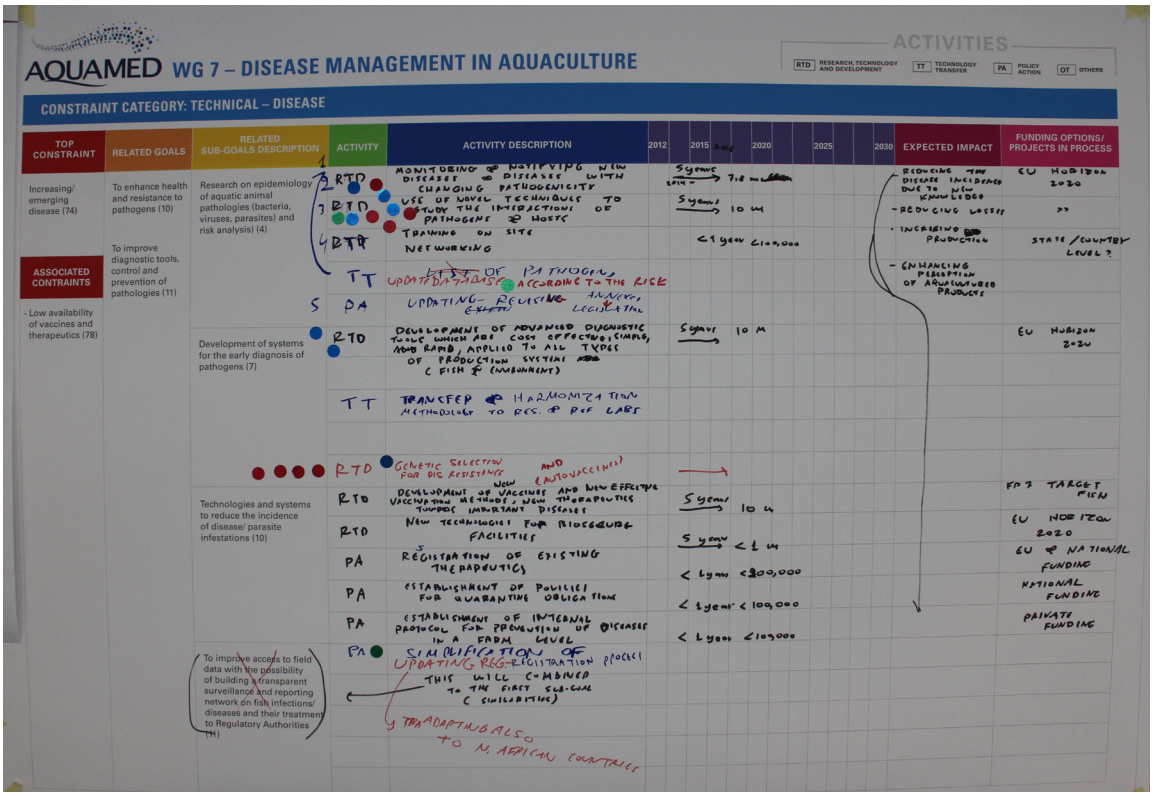


Figure 8: Plan of Action for WG 7 – Disease Management in Aquaculture

Table 7: Plan of Action for WG 7 – Disease Management in Aquaculture (this table contains the information of the figure above)

Top Constraint	Related Goals	Related Sub-goals	Activity	Activity description	Timeline (Year)				Expected Impact	Funding Options/ Projects
					2013	2015	2020	2025		
Increasing/ emerging disease Associated Constraints: • Low availability of vaccines and therapeutics	To enhance health and resistance to pathogens To improve diagnostic tools, control and prevention of pathologies	Research on epidemiology of aquatic animal pathologies (bacteria, viruses, parasites) and risk analysis	TT	Preparing a database - list of relevant pathogens according to the risk	8 Mill EUR 5 years				Reducing disease incidence due to new knowledge, reducing fish losses and increasing production, enhanced perception of consumer	EU Horizon 2020
			RTD	Monitoring and identifying new diseases and diseases with changing pathogenicity	10 Mill EUR 5 years					EU Horizon 2020
			RTD	Use of novel techniques to study the interactions of fish and pathogens	10 Mill EUR 5 years					EU Horizon 2020
			TT	Training on site - Networking	100K EUR <1 year					EU Horizon 2020
			PA	Updating and revising Disease Annexes at EU level	100K EUR <1 year					EU Horizon 2020/ Funding at state level
		Development of systems for the early diagnosis of pathogens	RTD	Development of advanced, cost effective, rapid and non lethal diagnostic tools which could detect important pathogens in both fish and surrounding water at an early infection stage	10 Mill EUR 5 years					EU Horizon 2020
			TT	Transfer and harmonisation methodology also implemented to reference labs	100K EUR 2 years					EU Horizon 2020
		Technologies and systems to reduce the incidence of disease/parasite infestations	RTD	Genetic selection towards increased immunity of aquatic organisms	10 Mill EUR 5 years					EU Horizon 2020
			RTD	Development of new vaccines and vaccination methods, implementation of auto vaccines-development of new therapeutics	10 Mill EUR 5 years					EU Horizon 2020/TARGETFISH: KBBE.2012.1.2-10 Call topic: Prevention of important diseases of farmed fish species-Collaborative project
			RTD	New technologies for biosecure facilities	<1 Mill EUR 5 years					EU Horizon 2020/ Funding at state level
			PA	Establishment of policies for use of quarantine	100K EUR <1 year					EU Horizon 2020/ National funding
			PA	Simplifying the registration of existing therapeutics used in other production systems-adaptation also to N. African countries	100K EUR <1 year					EU Horizon 2020
		To improve access to field data with the possibility of building a transparent surveillance and reporting network for fish infections/ diseases and their treatment to Regulatory Authorities	PA	Establishment of internal standardised protocols for disease prevention at farm level	€100,000 <1 year					Private / State funding

6.8. WG 8 - ENVIRONMENTAL MANAGEMENT AND GOVERNANCE
CONSTRAINT CATEGORY: GOVERNANCE - POLICIES

All types of aquaculture activities are in permanent interaction with the environment: badly managed aquaculture activities may have a strong detrimental effect on the environment, and a deteriorated environment has a strong negative effect on aquaculture activities. One major constraint is that the policies to manage the natural resources are very weak in many of the Mediterranean countries and there are few incentives for producers to preserve their environment. Relevant goals to tackle these constraints are: to better understand the interactions between the diverse aquaculture activities and the environment in order to take measures to reduce the impact of the main types of aquaculture on the environment. After the discussion among the 24 stakeholders who contributed to WG8, a third goal was added: reinforce governance and policies on the management of natural resources.

Five sub-goals were identified through the Delphi survey; a sixth one was added to reinforce the governance aspect. The WG8 group identified 13 activities that could help to achieve those sub-goals (see figure 9 and table 8 below):

1. Development of risk analysis method in aquaculture (effect on natural resources and the reverse)

- **Activity 1.1 Adapt risk analysis methods to aquaculture and ensure training (RTD/TT)**

- **Activity 1.2 Obligation to implement risk analysis for each new initiative (PA):** The methodology for risk assessment in the industry already exists. This method has to be adapted to the various aquaculture types. Training for this method has to be organised in order to ensure its correct use. This action should be implemented at the allocated zone level (not at the farm level).

2. Biosafety measures for the use of alien species in aquaculture

- **Activity 2.1 Establish a database of alien species in the Mediterranean, develop bio-technical methods to assess and minimise the negative impact of alien species on the environment, train possible users (RTD/TT)**

- **Activity 2.2 Harmonise biosecurity measures at the Mediterranean level (PA):** A list of the species considered as alien in the Mediterranean has to be established and the methods to assess and minimise their impact on the natural Mediterranean environment need to be harmonised, taking into consideration the specificities of the Mediterranean Region.

2. Efficient use of water resources and maintenance of water quality

- **Activity 3.1 Selection of strains of robust aquatic animals to cope with environmental changes and shift from fresh to salty waters (RTD):** It becomes more and more difficult to accede to fresh water resources for aquaculture and the characteristics of the natural water bodies are modified due to climatic condition changes. It is therefore important to cultivate species that are robust and may adapt easily to the variations of some specific determining water parameters. The example of organisms that can shift from fresh to brackish waters in order to save the limited fresh water resources was taken.

- **Activity 3.2 Development of integrated aquaculture multitrophic systems (RTD):** Integrated systems in order to use natural resources more efficiently.

- **Activity 3.3 Update regulation on the use of chemicals in aquaculture (PA):** Harmonisation of the regulations for the use of chemicals in the Mediterranean Region.

- **Activity 3.4 Assessment of the carrying capacity considering regional natural resources (RTD):** Development of a method for assessing the CC, which should be considered not only from the environmental view point but should also take into consideration all the regional natural resources.

4. Impact of pathogens introduced by aquaculture and wild populations

- **Activity 4.1 Assessment of the impact of pathogens from aquaculture on local species (RTD):** Development of methods to assess the impact of pathogens (bacteria, viruses or parasites) spread from aquaculture to the local species in the natural environment.

- **Activity 4.2 Updating and harmonising regulation on pathogens in aquaculture (PA):** Harmonisation of the regulations on disease in aquaculture at Mediterranean level (obligatory declaration, control measures and treatment, etc.).

5. Sustainable raw materials (fish oil and mill replacement) and alternative feed

Activity 5.1 Alternative sources of fatty acids and proteins for aquaculture and research of locally available sources (RTD): Already described in detail in WG 4. The local availability of raw material sources has to be emphasised.

Activity 5.2 Methods for definition of allowable zones of effect (RTD/PA): The farming activity has and will have an effect on the environment. It is important to agree collectively on the acceptable level of modification of the local environment and ecosystems and on the zones where this modification of the environment is acceptable, in order to enlighten policies and necessary precise governance measures on the management of natural resources.

6. Establish best practices for improving the image of aquaculture products ensuring the best use of natural resources: Not completed

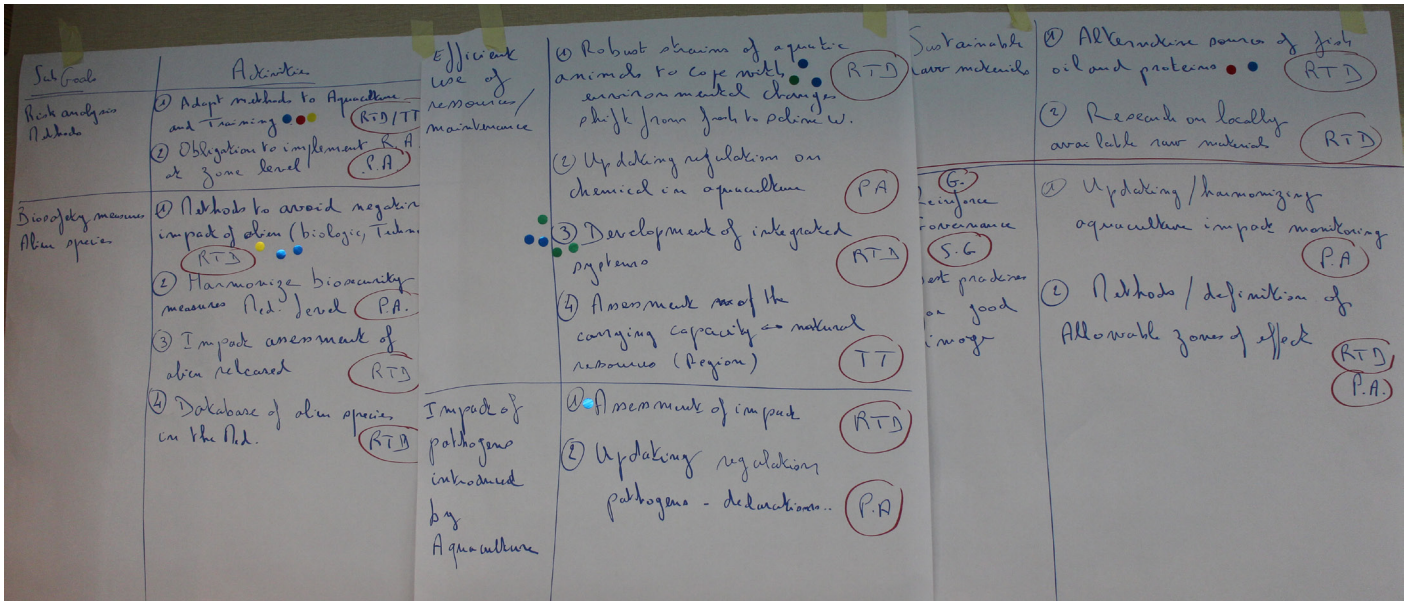


Figure 9: Plan of Action for WG 8 – Environmental Management and Governance.

Table 8: Plan of Action for WG 8 – Environmental Management and Governance (NGO) (this table contains the information of the figure above)

Top Constraint	Related Goals	Related Sub-goals	Activity	Activity description	Timeline (Year)				Expected Impact	Funding Options/ Projects
					2013	2015	2020	2025		
Weak policies to manage natural resources Associated Constraints: • Lack of reward/fiscal incentives scheme for performance outcomes	To better understand the interaction between aquaculture and environment To reduce the impact of aquaculture on the environment and biodiversity	Development of risk analysis methods in aquaculture (impact on natural resources)	RTD/TT	Adapt risk analysis methods to aquaculture and ensure training	€1 million 5 years					
			PA	Obligation to implement risk analysis for each new initiative					The risk assessment methods will be harmonised and the risks linked to aquaculture activity will be identified and anticipated	This project should be funded at the regional level
		Biosafety measures for the use of alien species in aquaculture	RTD/TT	Establish a database of alien species in the Mediterranean, develop bio-technical methods to assess and minimise the negative impact of alien species on the environment, train possible users						
			PA	Harmonise biosecurity measures at the Mediterranean level	>7 years				Updated regulation on alien species and protection of the local bio-diversity	EU/International, long term project, national and regional level funding
		Efficient use of water resources and maintenance of water quality	RTD	Selection of strains of robust aquatic animals to cope with environmental changes and shift from fresh to salty waters	>7 years				Larger availability of potential sites for aquaculture activities and less need for treatments	Long term, sources of funding not identified
			RTD	Develop integrated aquaculture multitrophic systems	>7 years				Better use of natural resources and minimisation of losses/wastes	EU/International, long term projects
			PA	Update regulation on the use of chemicals in aquaculture	>7 years				Less impact of farming activity on the environment	EU and/or regional funds
			RTD	Assessment of the CC considering regional natural resources	>7 years				Decreased footprint on the local environment	Long term project that could be funded at international, EU and regional levels
		Impact of pathogens introduced by aquaculture and wild populations	RTD	Assessment of the impact of pathogens from aquaculture on local species	>7 years				Decreased impact of farming activity on the environment	Long term project that could be funded at international, EU and regional levels
			PA	Updating and harmonising regulation on pathogens in aquaculture at Mediterranean level	1-3 years				Harmonised regulation for better preservation of the quality of the environment	Short to medium term, funded at regional level
		Sustainable raw materials (replacement of fish oil and fish meal) and alternative feed	RTD	Alternative sources of fatty acids and proteins for aquaculture and research of locally available sources						
			RTD/PA	Methods for definition of allowable zones of effect	>7 years				Identification of suitable locations for the development of aquaculture and of acceptable intensification levels of the farming activity	Long term project that could be funded at international, EU and regional levels

6.9. PRIORITISATION OF THE ACTIONS

At the end of this exercise, the stakeholders were asked to prioritise the activities identified using three sticky dots with different colours according to the type of stakeholder:

- RED: Industry
- BLUE: Research
- GREEN: Policy
- YELLOW: NGO

WG 1 - SIMPLIFY ADMINISTRATIVE PROCEDURE FOR LICENSING
CONSTRAINT CATEGORY: GOVERNANCE- ADMINISTRATION. TOTAL SCORE: 27

Top Constraint	Related Sub-goals	Activity	Activity description	VOTES				
				RES	IND	POL	NGO	TOT
Long time to complete licence/authorization procedure **Associated Constraints:** - Overlapping of many legislations and Ministries - Lack of a single administrative body in charge of aquaculture - Bureaucracy costs - Local difference in the application of law and procedures - Limited license period	Support the simplification of administrative process (time, costs, burden, etc.) for licensing	PA	• Collection and harmonisation of laws and procedures • Multi-stakeholder committee • Competent authority/ consensus/ technical assistance	1	1	5	1	**8**
		PA	Guide to administrative process	2	6	0	1	**9**
	Regulation of aquaculture activities according to national and European legislation (e.g. for European countries: Water Directive 2000/60CE, Marine Strategy Directive 2008/56CE)	PA	• Guidelines to policies and directives for EU and non-EU countries • One application form • National and Mediterranean level specialised team (Shared costs: government and applicant)	0	0	1	0	**1**
	Identification of criteria for site selection and monitoring in aquaculture	RTD	• Research on CC, monitoring network and GIS for site selection • Criteria identification for environmental, economic, social dimensions by research institution	3	0	1	0	**4**
		PA	• Aquaculture planning from policy strategies • Multi-stakeholder committee (more specific work team)	1	1	3	0	**5**
			TOTAL	**7**	**8**	**10**	**2**	**27**

WG 2 - SPATIAL PLANNING FOR AQUACULTURE DEVELOPMENT
CONSTRAINT CATEGORY: GOVERNANCE- POLICIES. TOTAL SCORE: 25

Top Constraint	Related Sub-goals	Activity	Activity description	Votes				
				RES	IND	POL	OT	TOT
Lack of long-term spatial planning for aquaculture development **Associated Constraints** • Limited space/land availability • Limited water resources availability	Support territorial planning and the identification of AZA	PA	Establishment of National Aquaculture Strategy (Inter-ministerial arbitration): need for one authority in charge of spatial planning	1	2	7	1	**11**
		PA/TT	Need to identify one window for spatial planning					
		OT	Communication Action: Gain National Support (National willingness)					
		PA	Mediterranean planning (Market, common label)					
		OT	Capacity building in socio-economic research (Governance, etc)					
	Identification of criteria for site selection and monitoring in aquaculture See WG 2.1 Research on CC	RTD	Definition of site selection process	4	2	4	2	**12**
		RTD	Definition of AZA					
		RTD/PA	Scientific support to develop appropriate decision making tools for AZA implementation					
		RTD	Establishment of criteria for site selection (economic, social and environmental), GIS for site selection, Monitoring network, Criteria identification for environmental, economic, social by research institution					
		RTD	Risk Analysis					
		OT	IIntegrate the impact of aquaculture on small fisheries					
	Use and development of chemical/biological indicators of environmental quality	PA/OT	Validation and adoption of criteria of site selection among stakeholders	0	1	1	0	**2**
		RTD	Case study and Allowable Zone of Effect (AZE) identification					
		RTD	Design of monitoring plan for AZA					
		PA	Integration of information and data into a legal framework					
			TOTAL	**5**	**5**	**12**	**3**	**25**

WG 3 - POLICY FOR MARKET AND CONSUMERS
CONSTRAINT CATEGORY: POLICIES – MARKET. TOTAL SCORE: 22

Top Constraint	Related Sub-goals	Activity	Activity description	VOTES				
				RES	IND	POL	OT	TOT
Weak policies on the market Associated Constrains • Lack of media campaign for aquaculture (related to benefits and responding to misleading claims) • Market price (unstable, low, high) • Market changes (lack of technological innovation and adaptive capacity)	Communication and marketing strategies to improve consumer perception and increase the consumption of aquaculture products	OT	Market Intelligence: Understand market dynamics in frame of increasing production costs	1	7	4	0	**12**
		OT	Market Intelligence: Communicate strategy and planning (e.g. For development of a species). Training, sharing, TT					
		PA	Market Intelligence: Harmonising legislative framework to include market issues and strategies imports					
		PA	Market Intelligence: National operating plan (including market)					
		OT	Portal: Online portal: Data collection, description	0	0	0	0	**0**
		OT	Portal: Virtual auction					
	New communication strategies to improve the general perception of aquaculture and its products (including social networks and divulgation campaigns)	RTD	• Survey: Consumer survey • Production/Consumption: Pattern identification • Cost/benefit to see if attractive for companies	0	0	2	0	**2**
		PA	Education: Consumer education and school education	3	0	3	1	**7**
		RTD	Education: Comparison of farmed and wild (Qualities)					
		RTD/TT	Education: "Footprint" of fish vs. meat vs. plants (resources)					
		OT/TT	Education: Institutional catering promotion (media) and campaign (image)					
		TT/PA	Education: Social "conscience" importance of the aquaculture sector (local, jobs)					
		PA/OT	POs: Strengthen Pos	0	0	1	0	**1**
		OT	POs: Seafood promotion organisation					
		RTD/PA	POs: Diversification of the offer (products) - Certification/trace. "Origin quality" Mediterranean (Trace)					
		PA/OT	POs: Federation of Mediterranean aquaculture producers					
			TOTAL	**4**	**7**	**10**	**1**	**22**

WG 4 - SUSTAINABLE FEED
CONSTRAINT CATEGORY: ECONOMIC (FIRST TOP CONSTRAINT FOR BOTH FRESHWATER AND SEAWATER SUB-SECTORS). TOTAL SCORE: 26

Top Constraint	Related Sub-goals	Activity	Activity description	VOTES				
				RES	IND	POL	OT	TOT
High feed cost	Technologies and system to reduce feed cost	RTD	Find new alternative sources of material to replace fish meal and fish oil in aquafeed composition	10	6	3	1	**20**
		PA	Define common Mediterranean criteria for product quality and import regulation and duties: to agree on common quality criteria and common import tax and duties to ensure a level playing-field in the Mediterranean. (However, it was noticed that it will be extremely difficult to control the international market)	0	2	0	0	**2**
	To improve feed assimilation and conversion rate	RTD	Continue research to improve feed conversion rates of already cultivated species: Research in selection, genetic improvement etc.	0	0	0	0	**0**
		RTD/TT	Develop new species with efficient feed conversion rates or herbivorous species: This research and TT activity should explore the development of new candidate species for aquaculture (e.g. mullet)	1	1	0	1	**3**
		TT	Optimise the use of agriculture raw material available but not used in some countries: Assist the countries which do not have the technology to use the sub-products of agriculture, such as palm tree fruits, etc.	0	0	0	0	**0**
		RTD	Environmental Impact Assessment of the sources of feed: Footprint. Evaluate the impact of the different raw material (e.g. carbon footprint) used in the composition of aquafeed	0	1	0	0	**1**
			TOTAL	**11**	**10**	**3**	**2**	**26**

WG 5 – ENVIRONMENT AND FOOD SAFETY
CONSTRAINT CATEGORY: ENVIRONMENT - FOOD SAFETY. TOTAL SCORE: 10

Top Constraint	Related Sub-goals	Activity	Activity description	VOTES				
				RES	IND	POL	OT	TOT
Pollution threat (other human activities) Associated Constraints • Algal blooms (anoxia)	Prevention and control of contamination in aquaculture products	RTD	Transfer of Knowledge to harmonise the methodology for sanitary survey and risk analysis	0	0	0	0	**0**
		PA	Implementation of equivalent criteria in the Mediterranean	0	0	0	0	**0**
		PA	Apply ICZM in the coastal areas in the Mediterranean	2	0	1	1	**4**
		RTD	Build a metadata database of contaminants and parameters	0	0	0	0	**0**
		TT	Share/open a common metadata database of contaminants and parameters	0	0	0	0	**0**
		RTD	Assess the current situation in the Mediterranean and risks	0	0	0	0	**0**
		TT	Training in environmental monitoring for farmers and policy	0	0	0	0	**0**
		RTD	Development of monitoring indicators for farms in the Mediterranean	0	0	0	0	**0**
		RTD	Develop methods for traceability of aquaculture products	0	0	0	0	**0**
		PA	Establish rules and regulations for traceability	0	0	0	0	**0**
		OT	Coordination activities to apply the WFD in EU	0	0	0	0	**0**
		TT	Develop equivalent legislation (WFD) in non-EU countries	0	1	1	0	**2**
		PA	Risk management plan for Mediterranean Region	0	0	0	0	**0**
	Technologies, analyses and control methods for biotoxin contamination in aquaculture products	RTD	Modelling tools to foresee the spread of contaminants in the Mediterranean	0	0	0	0	**0**
		RTD	Study emerging toxins/ pathogens	1	0	0	0	**1**
		OT/TT	Equivalent criteria/ levels for parameters	0	0	0	0	**0**
		PA	Implementation of equivalent criteria/levels for parameters in the Mediterranean	0	0	0	0	**0**
		TT	Rapid test for bitoxins (for farmers/producers)	1	2	0	0	**3**
			TOTAL	**4**	**3**	**2**	**1**	**10**

WG 6 - KNOWLEDGE MANAGEMENT AND TRANSFER
CONSTRAINT CATEGORY: SOCIAL-EXTENSION SERVICE & RESEARCH. TOTAL SCORE: 27

Top Constraint	Related Sub-goals	Activity	Activity description	VOTES				
				RES	IND	POL	OT	TOT
Inadequate research/ farmer/extension linkage Associated Constraints: • Limited research information exchange and technical findings • Limited documentation to facilitate investment in commercial aquaculture	Transfer of research outputs to the industry	TT 1	Set up a group of economic interest involving industry, research, policy makers (but also economists and consumers associations) The group shall be in charge of:	2	0	5	7	**14**
		sub-TT a	Organisation of regular meetings between producers and research. The meetings shall be regular and on a long-term scale in order to build trust among the actors involved	0	0	2	0	**2**
		sub-TT b	Appointment of a "translator" (knowledge transfer expert) in charge of reporting to the industry sector about the progresses and achievements in the research sector (and vice versa)	0	0	4	1	**5**
		sub-TT c	See Sub-goal: Development of databanks and virtual platforms for research					
		OT	Foreseen "reward" systems for researchers successful in delivering applicable research and include TT indicators in the curricula of researchers	0	0	0	0	**0**
		TT 2	Optimise and speed-up the scale-up of innovations process by industries "renting" researchers and science systems and sharing risks	1	1	2	1	**5**
		RTD	To carry out activities in pilot sites (or pilot project) as demonstration - when the action is successful it can be demonstrated and replicated (thus reducing the costs)	1	0	0	0	**1**
	Development of databanks and virtual platforms for research	sub-TT c	The group of economic interest shall set up a data collection system. In order to reduce barriers in data sharing, the data collection should be organised in two steps: 1) when metadata are requested, and 2) when specific data are required. In order to promote data sharing, incentives (not just economical) could be foreseen - such as collaborations and sharing of other data. The data collection should also include databases on technical-economical aspects (e.g. technical performs, antibiotic consummation). In order to capture "grey literature", all the stakeholders involved in the group of economic interest should regularly revise and contribute to the database	0	0	0	0	**0**
		OT	AQUAMED being in charge of managing SIPAM Platform	0	0	0	0	**0**
			TOTAL	**4**	**1**	**13**	**9**	**27**

WG 7 - DISEASE MANAGEMENT IN AQUACULTURE
CONSTRAINT CATEGORY: TECHNICAL/DISEASE. TOTAL SCORE: 18

Top Constraint	Related Sub-goals	Activity	Activity description	VOTES				
				RES	IND	POL	OT	TOT
Increasing/ emerging disease **Associated Constraints** • Low availability of vaccines and therapeutics	Research on epidemiology of aquatic animal pathologies (bacteria, viruses, parasites) and risk analysis	TT	Preparing a database - list of relevant pathogens according to the risk	0	0	1	0	**1**
		RTD	Monitoring and identifying new diseases and diseases with changing pathogenicity	1	1	0	0	**2**
		RTD	Use of novel techniques to study the interactions of fish and pathogens	3	3	1	0	**7**
		TT	Training on site - Networking	0	0	0	0	**0**
		PA	Updating and revising Disease Annexes at EU level	0	0	0	0	**0**
	Development of systems for the early diagnosis of pathogens	RTD	Development of advanced, cost effective, rapid and non lethal diagnostic tools which could detect important pathogens in both fish and surrounding water at an early infection stage	2	0	0	0	**2**
		TT	Transfer and harmonisation methodology also implemented to reference labs	0	0	0	0	**0**
	Technologies and systems to reduce the incidence of disease/parasite infestations	RTD	Genetic selection towards increased immunity of aquatic organisms	1	4	0	0	**5**
		RTD	Development of new vaccines and vaccination methods, implementation of auto vaccines-development of new therapeutics	0	0	0	0	**0**
		RTD	New technologies for biosecure facilities	0	0	0	0	**0**
		PA	Establishment of policies for use of quarantine	0	0	0	0	**0**
		PA	Simplifying the registration of existing therapeutics used in other production systems-adaptation also to N. African countries	0	0	1	0	**1**
	To improve access to field data with the possibility of building a transparent surveillance and reporting network for fish infections/ diseases and their treatment to Regulatory Authorities	PA	Establishment of internal standardised protocols for disease prevention at farm level	0	0	0	0	**0**
			TOTAL	**7**	**8**	**3**	**0**	**18**

WG 8 - ENVIRONMENTAL MANAGEMENT AND GOVERNANCE
CONSTRAINT CATEGORY: GOVERNANCE - POLICIES. TOTAL SCORE: 17

Top Constraint	Related Sub-goals	Activity	Activity description	Timeline (Year)				
				RES	IND	POL	OT	TOT
Weak policies to manage natural resources **Associated Constraints** • Lack of reward/fiscal incentives scheme for performance outcomes	Development of risk analysis methods in aquaculture (impact on natural resources)	RTD/TT	Adapt risk analysis methods to aquaculture and ensure training	1	1	0	1	**3**
		PA	Obligation to implement risk analysis for each new initiative	0	0	0	0	**0**
	Biosafety measures for the use of alien species in aquaculture	RTD/TT	Establish a database of alien species in the Mediterranean, develop bio-technical methods to assess and minimise the negative impact of alien species on the environment, train possible users	2	0	0	1	**3**
		PA	Harmonise biosecurity measures at the Mediterranean level	0	0	0	0	**0**
	Efficient use of water resources and maintenance of water quality	RTD	Selection of strains of robust aquatic animals to cope with environmental changes and shift from fresh to salty waters	2	0	1	0	**3**
		RTD	Develop integrated aquaculture multitrophic systems	2	0	3	0	**5**
		PA	Update regulation on the use of chemicals in aquaculture	0	0	0	0	**0**
		RTD	Assessment of the CC considering regional natural resources	0	0	0	0	**0**
	Impact of pathogens introduced by aquaculture and wild populations	RTD	Assessment of the impact of pathogens from aquaculture on local species	1	0	0	0	**1**
		PA	Updating and harmonising regulation on pathogens in aquaculture at Mediterranean level	0	0	0	0	**0**
	Sustainable raw materials (replacement of fish oil and fish meal) and alternative feed	RTD	Alternative sources of fatty acids and proteins for aquaculture and research of locally available sources	1	1	0	0	**2**
		RTD/PA	Methods for definition of allowable zones of effect	0	0	0	0	**0**
			TOTAL	**9**	**2**	**4**	**2**	**17**

6.10 SUMMARY OF EXERCISE I

This section contains a summary of Exercise I and the prioritisation of the actions identified in the eight WGs (figure 10).

WG1 dealing with the simplification of the administration procedures for licensing and WG6 on knowledge management had the highest scores, followed by WG4 on sustainable feed, WG2 on spatial planning and WG3 on policy for market and consumers. WG7 on disease management, WG8 on environment management and governance and WG5 on environment related to food safety are situated at the end of the list.

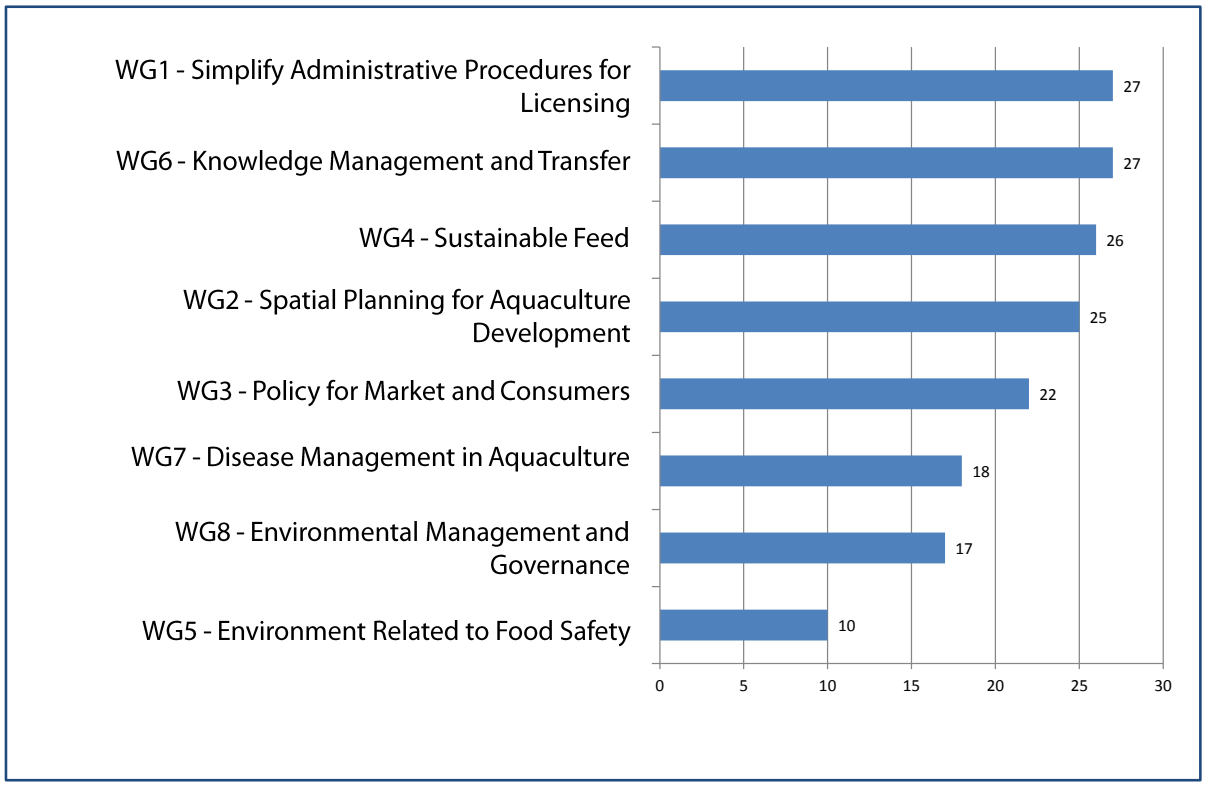


Figure 10: Summary of the prioritised WGs according to the score of the action plan items

In total, 100 activities were proposed over the eight WGs. The 35 activities prioritised by the stakeholders during the meeting are shown in Figure 11 and Table 9.

A closer look to the top 15 activities (see figure 12) reveals that the activity 6-1.1 (meaning WG6, sub goal 1 and activity 1 in the appropriate table) of TT to industry, by setting up a group of economic interests and additional steps, is the highest priority. It is interesting to note that no stakeholder from the industry prioritised this activity. Other top priorities are activity 4-1.1 on finding new alternative sources to replace fish meal and fish oil, and activity 2-2 on identification of criteria for site selection and monitoring.

Figure 11: Prioritised list of activities based on the votes of the stakeholders

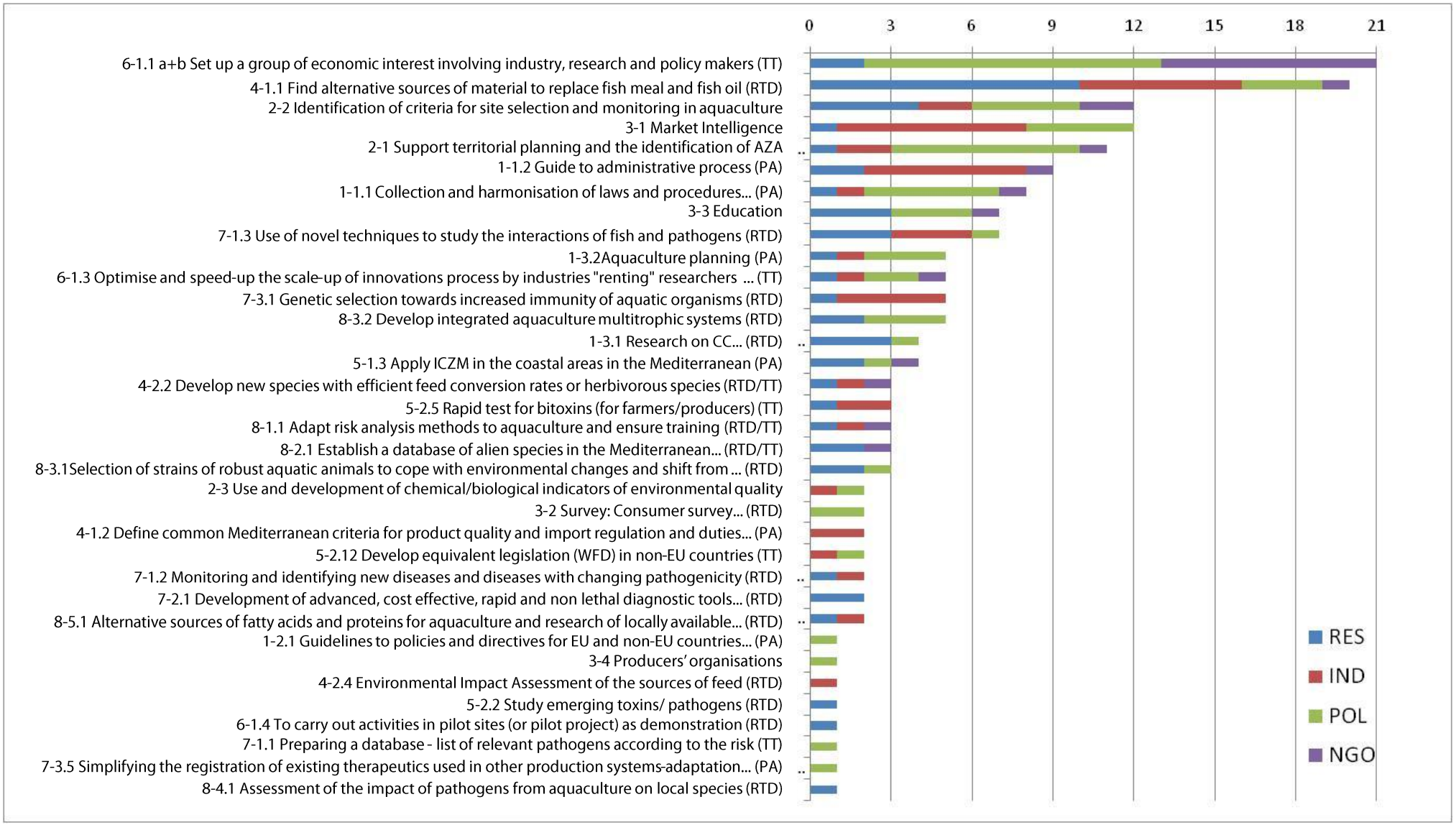
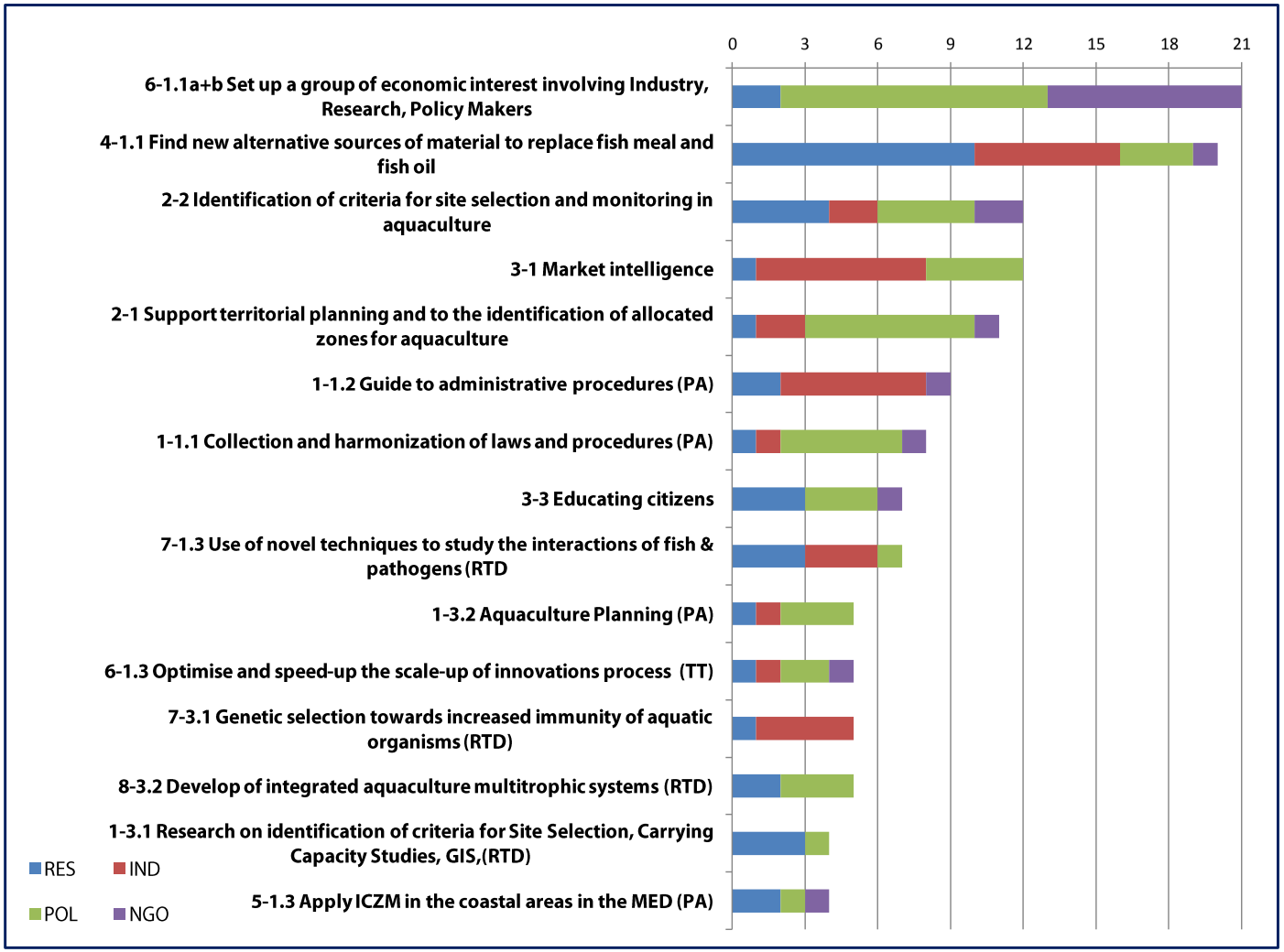


Table 9: Prioritised lists of activities based on the votes of the stakeholders

Priority	Sub-Goal Activity Index	Activities	Type of Activity	RES	IND	POL	NGO	TOT
1	6-1.1 a+b	Set up a group of economic interest involving industry, research and policy makers (TT)	TT	2	0	11	8	**21**
2	4-1.1	Find alternative sources of material to replace fish meal and fish oil (RTD)	RTD	10	6	3	1	**20**
3	2-2	Identification of criteria for site selection and monitoring in aquaculture		4	2	4	2	**12**
4	3-1	Market Intelligence		1	7	4	0	**12**
5	2-1	Support territorial planning and the identification of AZA		1	2	7	1	**11**
6	1-1.2	Guide to administrative process (PA)	PA	2	6	0	1	**9**
7	1-1.1	• Collection and harmonisation of laws and procedures • Multi-stakeholder committee • Competent authority/ consensus/ technical assistance	PA	1	1	5	1	**8**
8	3-3	Education		3	0	3	1	**7**
9	7-1.3	Use of novel techniques to study the interactions of fish and pathogens	RTD	3	3	1	0	**7**
10	1-3.2	Aquaculture planning	PA	1	1	3	0	**5**
11	6-1.3	Optimise and speed-up the scale-up of innovations process by industries "renting" researchers and science systems and sharing risks	TT	1	1	2	1	**5**
12	7-3.1	Genetic selection towards increased immunity of aquatic organisms	RTD	1	4	0	0	**5**
13	8-3.2	Develop integrated aquaculture multitrophic systems	RTD	2	0	3	0	**5**
14	1-3.1	• Research on CC, monitoring network and GIS for site selection • Criteria identification for environmental, economic, social dimensions by research institution	RTD	3	0	1	0	**4**
15	5-1.3	Apply ICZM in the coastal areas in the Mediterranean	PA	2	0	1	1	**4**
16	4-2.2	Develop new species with efficient feed conversion rates or herbivorous species: This research and TT activity should explore the development of new candidate species for aquaculture (e.g. mullet)	RTD/TT	1	1	0	1	**3**
17	5-2.5	Rapid test for bitoxins (for farmers/producers)	TT	1	2	0	0	**3**
18	8-1.1	Adapt risk analysis methods to aquaculture and ensure training	RTD/TT	1	1	0	1	**3**
19	8-2.1	Establish a database of alien species in the Mediterranean, develop bio-technical methods to assess and minimise the negative impact of alien species on the environment, train possible users	RTD/TT	2	0	0	1	**3**
20	8-3.1	Selection of strains of robust aquatic animals to cope with environmental changes and shift from fresh to salty waters	RTD	2	0	1	0	**3**
21	2-3	Use and development of chemical/biological indicators of environmental quality		0	1	1	0	**2**
22	3-2	• Survey: Consumer survey • Production/Consumption: Pattern identification • Cost/benefit to see if attractive for companies	RTD	0	0	2	0	**2**
23	4-1.2	Define common Mediterranean criteria for product quality and import regulation and duties: to agree on common quality criteria and common import tax and duties to ensure a level playing-field in the Mediterranean. (However, it was noticed that it will be extremely difficult to control the international market)	PA	0	2	0	0	**2**
24	5-2.12	Develop equivalent legislation (WFD) in non-EU countries	TT	0	1	1	0	**2**
25	7-1.2	Monitoring and identifying new diseases and diseases with changing pathogenicity	RTD	1	1	0	0	**2**
26	7-2.1	Development of advanced, cost effective, rapid and non lethal diagnostic tools which could detect important pathogens in both fish and surrounding water at an early infection stage	RTD	2	0	0	0	**2**
27	8-5.1	Alternative sources of fatty acids and proteins for aquaculture and research of locally available sources	RTD	1	1	0	0	**2**
28	1-2.1	• Guidelines to policies and directives for EU and non-EU countries • One application form • National and Mediterranean level specialised team (Shared costs: government and applicant)	PA	0	0	1	0	**1**
29	3-4	Producers organisations		0	0	1	0	**1**
30	4-2.4	Environmental Impact Assessment of the sources of feed: Footprint. Evaluate the impact of the different raw material (e.g.	RTD	0	1	0	0	**1**
31	5-2.2	Study emerging toxins/ pathogens	RTD	1	0	0	0	**1**
32	6-1.4	To carry out activities in pilot sites (or pilot project) as demonstration - when the action is successful it can be demonstrated	RTD	1	0	0	0	**1**
33	7-1.1	Preparing a database - list of relevant pathogens according to the risk	TT	0	0	1	0	**1**
34	7-3.5	Simplifying the registration of existing therapeutics used in other production systems-adaptation also to N. African countries	PA	0	0	1	0	**1**
35	8-4.1	Assessment of the impact of pathogens from aquaculture on local species	RTD	1	0	0	0	**1**
			TOTAL	**51**	**44**	**57**	**20**	**172**

Figure 12: Top 15 prioritised activities, according to the stakeholders' category (Research, Industry, Policy, NGOs)



7. EXERCISE 2: TOWARDS THE SUSTAINABILITY OF THE MSHP

Jean-Paul Blancheton presented the options identified by the AQUAMED consortium to sustain the MSHP. The presentation can be **downloaded here.**

Other potential contributions of AQUAMED and FORCE to future EU initiatives were also presented. The presentation can be **downloaded here.**

After these presentations, the stakeholders were asked to generate ideas and then to make some concrete proposals for the sustainability of the MSHP. The results of the exercise are shown below:

Question 1: If we wanted to get additional money for the MSHP, whom could we ask? (Can you help us ask these actors?)

a) Public funding	- EU
	- National funds
	  o Ministry of environment
	  o All member states of the project
	- EU fisheries funds
	- FAO
	- UNDP
	- OADA

b) International Banks (credits)	- World Bank - MIB - African Bank - North Development Bank - European Investment Bank
c) Private funding	- Industry/ Producers - OPEP
d) NGO	- Through projects

Question 2: If we do not get grant funding, what other sources of financial support could we pursue?

a) Sponsors or indirect Sponsors	- Small budget/fee from countries - National/International policies - Medium or low taxes - Producers' sponsorship
b) Producers, Industry, NGOs	- Producers' organisations - NGOs - Production and importation tax - Producers - NGOs - All the stakeholders involved - National organisations from industry - Producers contribution - Professionals could search for financial support
c) Public funding and credits	- FAO - UN - EU - Banks (MIB) - WTO - National contributions - Governments

Question 3: What would it take for members to accept a membership fee?

a) Yes	- 9 Yes
b) Yes if…	- The MSHP secures funding or gives recommendation for "prioritised" projects, membership fee would be paid - Yes, privileged information and participation in consortiums - Fees paid by institutions not countries - Access to specific information and databases, etc - Depending on the service offered by platform - Yes, but the platform should make sure that it will produce important feedback to member states - Yes, if the production has more power - Why not, but not sufficient - The membership fee is needed as a task relating to the type of farm (size) - Yes, but proportional to scale - Business membership
c) No	- 4 No
d) Annual operating costs (example)	Example: Secretariat and meetings = €150,000/yr. An investment bank :€100,000 IF Membership = €50,000

Question 4: We have GFCM as a host, how can we further strengthen members' engagement in this process? How can we encourage members to take a more important role in the future programme and platform?

a) Prioritise regional needs among members	- Prioritise regional needs among members' National funds
b) Funds	- AQUAMED will transfer the project results to GFCM and GFCM will guarantee the platform set up - FAO should increase CAQ budget - Finding funds to cover travel costs and disseminating information to provide feedback - GFCM know the results from the AQUAMED project and has proposed the platform as advisory body
c) Governance	- Participation in the board of directors - Industry - Countries are already involved in GFCM and pay the fee - To encourage the stakeholders to become members and support them - More involvement
d) Practical interest	- Focus on the industry - Try to transform all the reflections and results on actual actions/tasks - Focus on the needs of production and solve them in a sustainable way - Create committees of experts for specific actions - Increase awareness of and interest in the platform through practical information and added values
e) Communication	- Better information about CAQ initiatives - Feedback information - Improve communication to the whole aquaculture community in the Mediterranean - Convince the producers of the interest of becoming member - Make members become "interested" - Develop online communication platform between CAQ members - Ensure the permanent contact

Question 5: What are some of the other ways we can help make the MSHP sustainable?

a) Already existing	- The best option has been already selected - The sustainability of the platform has been guaranteed by GFCM
b) Networking with mirror platforms	- Promote the MSHP at national level - Creation of relationships with National platforms - Promotion of the platform for the professional associations at regional level - Networking with other aquaculture related platforms worldwide
c) Regularity of the Platform	- Training - Good results from the work done in the MSHP - Carry out stakeholder meetings regularly to follow the POA
d) Human resources	- More involvement from producers - Recruitment of a permanent position to facilitate the strengthening of the links
e) Funding	- Guarantee funding procurement - Fees
f) Dissemination through media	- Disseminate the results obtained within the AQUAMED project and of the first MSHP meeting related to the aquaculture trends in the Mediterranean - Create a website and platform - Increase connections with industry - Offer useful services - Information for interested parties/stakeholders ("no customer – no money") - Use interactive media

Question 6: Which should be the first three activities carried out by the MSHP in a near future?

a) Membership	- AQUAMED should become a member of EATIP (2) - Embraced by GFCM - Member of GFCM – CAQ - To define its legal status - Write down its status and choose direction bodies - Establish a Mediterranean Aquaculture Producers Federation
b) Funding	- Secure long-term sustainability of the MSHP within EU body - Get funding - Find the funding scheme for projects - Identify funding for collaborative work - Get funding from industry - Administrative and financial support to the platform - Look for funds - Political lobbying to funding bodies - Find funds - Harmonisation of laws
c) Knowledge Transfer	- Finalise the research agenda - Promotion of the research agenda - Help to develop projects between producers and researchers - Technology Transfer - Pilot project at regional level - Identify project's priorities - Strengthen the relationship between MSHP and Governmental bodies at national level
d) Agenda and Priorities	- Communication of the objectives of the MSHP - Knowledge and tools for an intelligent market - Define the priorities for the aquaculture sector - Attract the relevant stakeholders to participate in MSHP (producers and industry) - Policy (regulation) - Spatial planning - Environment - Allocated Zones for Aquaculture - Environment - National Strategy - Harmonise legal and procedures at national level (Mediterranean) - Education of consumers and improvement of aquaculture image - Knowledge transfer between researchers and industry - Focus on industry. Networking - Relevant program of work - Specific agenda for: o Research o Production o Government
e) Reinforce the WGs per group of countries facing the same constraints	- Reinforce the WGs per group of countries facing the same constraints
f) Creating a network and a database of the sector and of research issues	- Creating a network and a database of the sector and of research issues
g) Start common projects to solve the problem of high cost of feeding	- Start common projects to solve the problem of high cost of feeding

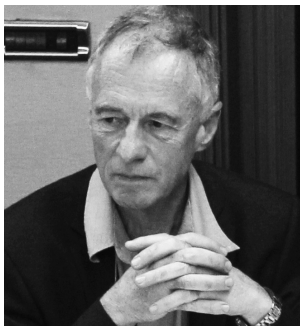
Question 7: How could the MSHP help to increase the political commitment to aquaculture at regional/national level?

a) Lobbying at national or local level	- Through the recommendations and resolutions of CAQ-GFCM - Developing links with CAQ - Through the connections of the platform with specific political entities - Policy makers belonging to the MSHP lobbying at national level - Lobbying (8) - Creating a lobby and a local action plan - Lobbying/dissemination at a regional and local level - Advise intergovernmental organisations or national institutions on actions to be adopted - The recommendations from the platform will be very useful for regional and local policy makers
b) Create mirror AQUAMED MSHP at national level	- Create mirror AQUAMED MSHP at national level
c) Dissemination of platforms ways of work, results, needs	- Disseminate the platform results - Present the results according to the reliable objective to be transferred - More information and communication with the political authorities and the industry
d) Promoting the platform to other disciplines and groups (scientific, political, NGOs)	- Promoting the platform to other disciplines and groups (scientific, political, NGOs) - Transferring the needs and demands from the sector to the governments
e) Clarify the economic (positive) impact of the sector	- Reinforce the aquaculture weight - Promote Mediterranean aquaculture products - Give a better visibility to the economic impact of aquaculture - Highlight the importance of the sector (food for humans) - Increase awareness of the importance of the aquaculture sector in the region and in each country

Question 8: How could the MSHP promote the creation of professional associations in the aquaculture chain?

a) Creation of national platforms	- Help building a national platform - Support the establishment of national MSHP
b) Reinforcement of networks and links	- Associate professional associations to the platform - Help searching new partnerships and interconnecting new partners - Improve the relationships between producers (industry) and research by involving them in all research activities to promote TT - Promote a participatory approach - Invite producer associations to be member of the MSHP and not single producers - Communication - Coordination meetings - Promote an equal representation in the MSHP - Identify the producers and propose a framework for their organisation
c) Coordination at Mediterranean level	- Coordination at Mediterranean level
d) Dissemination and knowledge transfer	- Transfer of results from research to industry and common problems from industry to decision makers - Highlight the platform outputs "success stories"/experiences - Highlight practical results to be applied - Ongoing projects and demonstration activities

8. STAKEHOLDERS INTERVIEWS



Jean-Paul BLANCHETON

Researcher at IFREMER (France)

AQUAMED project coordinator

What would you like to get from the MSHP, both in the short term (<5 years) and in the longer term (>20 years)?

Jean-Paul BLANCHETON In the short term, I would like to see the platform be opened up to all Mediterranean countries. It would be interesting to have confirmation and validation of the priorities identified through the first two platform meetings for all Mediterranean countries. The platform should also link with other existing platforms related to aquaculture (EATiP, OrAqua, Aquasem, etc.) so that we can achieve the goal of more sustainable development of the aquaculture sector in the Mediterranean. To achieve this, it is important that the platform could act as an advisory body for the implementation of the main actions that will be carried out, based on the plan of action elaborated during the last multi-stakeholder meeting.

In the long term, the platform should focus on all the issues related to the aquaculture sector in the region and not only on research. It should become the privileged forum of exchanges for concerted actions in the Mediterranean in the fields of aquaculture, environment and fisheries.

What do you feel is an important factor in making the MSHP a success?

JPB I think that a quick start of the activities is really needed so that we do not lose momentum; this is ensured by the first preparation meeting at the end of June 2013 in Tunisia. The platform should also engage with the stakeholders so that they feel that this is a forum to work together on the main problems they are confronted with and to contribute to solving them more efficiently.

What would you see as a failure for the MSHP?

JPB From my point of view a delayed start could lead to the loss of the current engagement with the stakeholders. Also, very conflicting attitudes of the stakeholders leading to them being unable to make decisions.

How can you as a stakeholder contribute to the success of the MSHP?

JPB Through a strong personal commitment based on a belief in a clear mutual benefit for all the stakeholders.

What do you think is the most valuable outcome of the MSHP?

JPB An open dialog between all types of stakeholders from all Mediterranean countries.

What session did you find most useful?

JPB The sessions where the constraints, goals and sub-goals were discussed for elaboration of a POA. During these sessions, there was a strong interaction of the participants, including confrontation of opinions and discussions on specific topics from different points of view, and it contributed to opening our minds and to a better understanding.

Giovanna MARINO

Senior Scientist, Chief of Aquaculture Department at Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA)

AQUAMED WP7 Research Needs and Recommendations Leader

What would you like to get from the MSHP, both in the short term (<5 years) and in the longer term (>20 years)?

Giovanna MARINO In the short term, I would like to see an established and permanent Aquaculture Multi-Stakeholders Platform, opened to all GFCM countries, representing a "working environment" for all groups of interest in aquaculture. It should facilitate the sharing of knowledge and experiences, the identification of common key issues, the cooperation and collaboration for the formulation of R&D projects and ultimately finding solutions to mobilise human and financial resources at country and regional level. In the very short term I would finalised the results we got in AQUAMED and develop from the Plan of Action to the Strategic Research and Innovation Agenda for Mediterranean aquaculture. The key topics considered in the Agenda, already prioritised and validated by stakeholders, should be adequately recognised as strategic issues for the Mediterranean aquaculture and considered for funding within the new European R&D instruments (such as Horizon 2020) and by national and private R&D funds. It will be also important to better integrate and coordinate the different priorities and strategic topics recognised in the different R&D Agendas (e.g. EATiP, EFARO, SCARfish) and identify the most important. On the long term, the Platform should become the main framework for GFCM member countries to foster a harmonised and sustainable development of aquaculture across the Mediterranean.

What do you feel is an important factor in order to make this Platform a success?

GM I think that the participation of stakeholders is the key factor. It will be ensured if the activities of the Platform provide services and mutual benefits. However, the awareness of policy makers and a strong commitment of nations are also strategic factors for the Platform and its fruitful future works. The process started just now under the umbrella of FAO-GFCM can facilitate the commitment of all Med countries.

What would you see as a failure from the Platform?

GM Timing of the new Platform is decisive, because the building up of the Platform is already started, in my opinion in the right moment, and now it is important to keep the interest of all interested actors.

How can you as a stakeholder contribute to the success of the Platform?

GM My personal commitment will continue at national level to increase awareness and find consensus on the strategic importance of the Platform and to facilitate the implementation of a national platform/network in support of GFCM Platform.

What do you think is the most valuable outcome of the Platform?

GM I think that the adoption of the Platform as Subsidiary body of GFCM-CAQ in the 37th GFCM Session is the most important outcome.

What session did you find more useful?

GM The elaboration of the POA when stakeholders had the opportunity to interact, discuss, exchange opinions and experiences, improving their understanding was a very good start.

AQUAMED WP 9 SETTING MULTI-STAKEHOLDER PLATFORM LEADERS

George RIGOS

Researcher at the Hellenic Centre for Marine Research, Greece

Noam MOZES

Head of Mariculture Department, Ministry of Agriculture & Rural Development, Israel

What would you like to get from the MSHP, both in the short term (<5 years) and in the longer term (>20 years)?

George RIGOS/Noam MOZES In the short term, we anticipate that the platform will efficiently identify and update the changing priorities in all aspects of the Mediterranean aquaculture industry. In the long term, the platform should find the appropriate tools to bring the S. European together with the N. African region; this will be a good success for its operation. Moreover, the ability to influence EU legislative directives and calls for funding by proposing priorities that are also included in the long term expectations.

What do you feel is an important factor in making the MSHP a success?

GR/NM The commitment and belief of the candidate stakeholders regarding the potential of this alliance will significantly impact its success. The ability to influence perception of the other potentially involved bodies will also be vital.

What would you see as a failure from the MSHP?

GR/NM The inability to clearly identify the potential benefits individually for the stakeholders and generally for the aquaculture industry in the Mediterranean region.

How can you as a stakeholder contribute to the success of the MSHP?

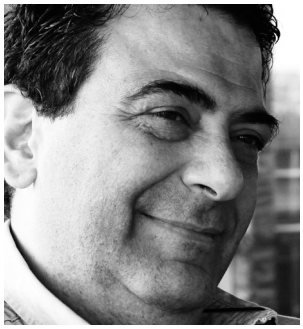
GR/NM By actively participating and attempting to convince stakeholders at a national level about its potential value for the industry.

What do you think is the most valuable outcome of the MSHP?

GR/NM The identification of priorities, goals and sub-goals, the selection of the most important POA towards sub-goals and the determination of specific activities for each sub-goal were in our opinion the most valuable exercises.

What session did you find most useful?

GR/NM During the MSHP meeting, the determination of specific activities for each important sub-goal was a very useful and a realistic approach which can in turn create important proposals.



Fabio MASSA
Senior Aquaculture Officer/CAQ Technical Secretary

General Fisheries Commission for the Mediterranean, Italy

What would you like to get from the MSHP, both in the short term (<5 years) and in the longer term (>20 years)?

Fabio MASSA I think that for Mediterranean aquaculture development right now, it is essential to establish an aquaculture multi-stakeholder regional platform as an instrument to foster aquaculture development in the General Fisheries Commission for the Mediterranean (GFCM) Area. This was acknowledged by the 8th session of the GFCM Committee on Aquaculture (CAQ) in March 2013 and subsequently endorsed by the 37th session of the Commission in May 2013, which considered the establishment of such a platform as subsidiary body of CAQ. This kind of platform should be a constructive and practical working environment that brings together a wide range of different stakeholders sharing a common interest to foster aquaculture development. Once it is established, an aquaculture platform could facilitate the involved actors to work together to develop strategies and actions and to address issues for aquaculture such as disease management, policies and administrative procedures, and environmental and socio-economic aspects.

In the short term, the platform should effectively establish an environment where cooperation among stakeholders is strengthened, knowledge shared and collective actions undertaken. I think that in the short term the platform should also produce practical and useful outputs for the different actors. In a longer term it is expected that the platform will become a stable, consolidated hub in the region and a key interchange to facilitate effective communication among stakeholders, develop a shared understanding of their situation, and ultimately help to address complex problems and work towards harmonised development of aquaculture in the region.

What do you feel is an important factor in making the MSHP a success?

FM This is an historical moment for the region, many signals point to renewed international and national interest in fostering aquaculture development in the Mediterranean and Black Sea. A crucial factor for a successful platform would therefore be a clear commitment by countries in the area to support the platform as a means to address regional, sub-regional and thematic priorities, and as a reference forum for aquaculture. In this sense the interest expressed by the stakeholders and the GFCM in the establishment of such platform is of extreme importance.

What would you see as a failure for the MSHP?

FM The failure of the platform would coincide with the lack of interest and engagement of the main aquaculture stakeholders. Failure to involve the key actors from all countries of the region in a sound and productive dialogue or to produce practical results according to the identified main priorities and strategic interventions would definitely undermine the credibility entrusted in such a platform and the objectives for which it was conceived and established. The activities of the platform should be oriented to results and services that can immediately be translated into concrete actions for the sector.

How can you as a stakeholder contribute to the success of the MSHP?

FM The platform could be instrumental in identifying strategic research issues and strengthening cooperation and stakeholder involvement. In addition, the recent successful involvement of regional research institutes, projects and other relevant stakeholders in the AQUAMED project clearly shows a wide interest in such initiatives. In addition, given that the GFCM is one of the Regional Fisheries Management Organisations (RFMO), and also has a specific mandate on aquaculture, having the platform as subsidiary body of its CAQ is expected to play an even more relevant role in coordinating activities. We have to consider that a multi-stakeholder and multidisciplinary approach already exists within the CAQ working environment on thematic and sub-regional activities. This includes the work done within the projects on AZA to define criteria for site selection, and the work done on the identification of indicators to follow the development of sustainable aquaculture.

What do you think is the most valuable outcome of the MSHP?

FM Arguably the most valuable outcome of the meeting in Istanbul has been raising awareness about the importance of aquaculture and the role of a dedicated regional platform to sustain it. The excellent communication strategy put in place has allowed the substantial involvement of a range of stakeholders, paving the way for further initiatives such as this. The consultative process of the meeting and the different steps undertaken within the project have resulted in increased visibility and are also valuable outcomes.

What session did you find most useful?

FM This meeting has successfully contributed to the consolidation of the results achieved by the project and to building momentum. I found the discussion and recommendations given on the Action Plan, and the way aquaculture issues were clustered and ranked based on key priorities that also represent a good base for the work and future establishment of the platform, particularly interesting. The latter will be essential in drawing the attention of countries and supporting the establishment of a long-term aquaculture platform. The meeting was also a great opportunity to be involved in the discussion about the interest of the GFCM in the establishment of such platform as a subsidiary body of the CAQ. This can be also be considered to be a further possibility to foster aquaculture development with the direct involvement of the countries in the region.

Alistair LANE

Executive Director

European Aquaculture Society, Belgium

AQUAMED Project Observer

What would you like to get from the MSHP, both in the short term (<5 years) and in the longer term (>20 years)?

Alistair LANE I think that the platform should communicate clearly its RTD priorities and proposed action plan to all research funders – at national and regional level – so that the next cycle of research funding takes into account the projects and programmes that will make a difference to Mediterranean aquaculture. In the short term therefore, the success factor will be the number of projects and initiatives that are actually funded and the transfer of the knowledge obtained through those projects and initiatives. In the longer term, we need to see increased production, value and jobs in the countries that make up the platform, accompanied by increased domestic consumption of farmed fish and shellfish.

What do you feel is an important factor in making the MSHP a success?

AL As with all stakeholder platforms, the key to success is people. With the commitment of partners and with good leadership and communication, the basic platform operation should be self-financing. Research funders should be affiliated to the platform and be important vectors in its further development. A second critical factor is the development of national and regional policy to develop aquaculture, based on the needs identified by the platform and based on the clear communication of those needs to policy makers in the region.

What would you see as a failure from the MSHP?

AL Not achieving either of the above success factors would be failure. In this case, platform members will become disenfranchised and would lose the motivation required to continue efforts.

How can you as a stakeholder contribute to the success of the MSHP?

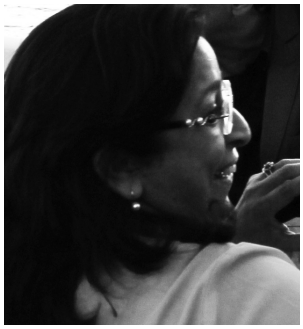
AL The European Aquaculture Society (EAS) has an objective of bringing people together for the sustainable development of European aquaculture. EAS can assist in communicating the activities and outcomes of the platform through our various publication channels. Our annual Aquaculture Europe event can also be a forum for the platform to use to share its outputs.

What do you think is the most valuable outcome of the MSHP?

AL The validation of the platform as a subsidiary body of the GFCM is a key factor for its sustainability that will form the basis for national affiliation and further development. During the AQUAMED project, the individuals involved in the platform have had the chance to get to know each other better and work together to identify needs and priorities. This has provided important groundwork for the future and – perhaps even more importantly – has reinforced the relationships between the people that comprise it.

What session did you find most useful?

AL Looking to further the development of the action plan: this is crucial.



Rakia BELKAHIA

Directorate General for Fisheries and Aquaculture (Ministry of Agriculture), Tunisia

What would you like to get from the MSHP, both in the short term (<5 years) and in the longer term (>20 years)?

Rakia BELKAHIA I would like to get a transferable model for each country in order to improve the coordination between the different actors of the aquaculture sector in research and development. The platform will be the forum where all the stakeholders of the Mediterranean will be able to exchange ideas and cooperate to increase the efficiency of applied research programs in the countries concerned. It will also contribute to the creation of a harmonised approach among partner countries to optimise the resources and the exchange of expertise. It will provide an opportunity to strengthen the scientific and technical capabilities of each country for an effective and relevant contribution to the strategies for the future development of the aquaculture sector.

What do you feel is an important factor in making the MSHP a success?

RB The establishment of a mirror platform in each country that will serve as a permanent interface with the regional platform. Its aim will be to sustain the activities carried out within the platform at a national level.

What would you see as a failure from the MSHP?

RB I think that the unbalanced representation of stakeholders in the platform (bigger representation from research than industry or policy) and the lack of similar permanent structures across countries, which will support the participation of their representatives in the regional platform, could be two determinant factors that could lead to the failure of the platform.

How can you as a stakeholder contribute to the success of the MSHP?

RB As a representative of the administration (the competent authority involved in the design of development strategies for aquaculture), the platform is an appropriate framework to support the actions proposed by different stakeholders and facilitate their implementation at a national level.

What do you think is the most valuable outcome of the MSHP?

RB From my point of view, one of the most important outcomes of the platform will be to reach a common agreement among all the Mediterranean countries in terms of the sustainability of the aquaculture activities. It will be good to determine the suitable zones for aquaculture as well as to develop a joint strategy for the marketing of aquaculture products. It should also take into account the socio-economic aspects of the sector.

What session did you find most useful?

RB I personally preferred the second session related to the plan of action. It was very useful to highlight the important role that the platform can play in the region. It also pointed out the issues that are currently strategic for the future development of the sector. This approach can help to deal with these issues effectively and in a coordinated way.

Tufan EROLDOGAN

University of Cukurova, Turkey

What would you like to get from the MSHP, both in the short term (<5 years) and in the longer term (>20 years)?

Tufan EROLDOGAN I hope that the platform will be active in both the short and long term. I hope that its results will influence the Horizon 2020 strategy so that we will be able to increase the cooperation among the Mediterranean countries through the development of future projects.

What do you feel is an important factor in making the MSHP a success?

TE I think that we should constantly keep in touch and be aware of the opportunities to facilitate and increase the cooperation among the Mediterranean countries.

What would you see as a failure from the MSHP?

TE When we were in the platform meeting, we discussed some issues which should be addressed by policy makers at a national level. Thus, I think those issues will fail unless we follow-up and put pressure on policy makers to adopt the measures needed. Additionally, each country has their specific problems in each WG. I think that for specific issues it will be difficult to apply specific solutions to overcome the identified constraints.

How can you as a stakeholder contribute to the success of the MSHP?

TE As a researcher, I can keep my colleagues and the private sector informed about the platform and its main goals.

What do you think is the most valuable outcome of the MSHP?

TE I believe that the most valuable outcome of the platform is to have an overview of the current situation of Mediterranean aquaculture. It is also important to have a forum where different stakeholders are able to discuss mutual ideas to improve the sector and share information and experiences.

What session did you find most useful?

TE For me the round table discussion and the information that was given at the beginning of the meeting were the most useful sessions.

ANNEX I
MEETING AGENDA

ANNEX I - MEETING AGENDA

MONDAY 20 MAY

14.00-14.30	Welcome and Introduction to the Workshop Methodology
	Welcome local organiser (Atilla OZDEMIR)
	Brief presentation on the AQUAMED Project (Jean-Paul BLANCHETON)
	Objectives of the workshop (Noam MOZES)
14.30-14.45	Summary of the 1st Multi-Stakeholder Platform Meeting in Rome (George RIGOS)
14.45-15.05	Overview of the Aquaculture Sector and Future Trends Based on the Results of the Delphi Survey (Giovanna MARINO)
15.30-17.30	Recommendations for the Plan of Action (Giovanna MARINO)
17.30-18.00	Reflections on the Day

TUESDAY 21 MAY

09.00-09.15	Presentation of the Methodology for the Exercise 2
09.15-11.15	Exercise 1: Drafting the Plan of Action
11.30-12.30	Exercise 1: Drafting the Plan of Action (Continuation)
12.30 – 13.30	Report back on results of each group
14.30-16.30	Exercise 2: Towards the Sustainability of the MSHP
	Presentation of the main sources of funding identified by the Consortium (Jean-Paul BLANCHETON)
16.45-17.30	Report back on results of each group
17.30-18.00	Next Steps and Concluding Remarks (Noam MOZES and Jean-Paul BLANCHETON)

ANNEX II
LIST OF PARTICIPANTS

AQUAMED

ANNEX II: LIST OF PARTICIPANTS

	Surname	Name	Institution	Country
1	Abbink	Wolter	WUR-IMARES	The Netherlands
2	Akouri	Omar	Fédération de la Pêche Maritime et de l'Aquaculture	Morocco
3	Albay	Meriç	Istanbul University	Turkey
4	Al Hawi	Ibrahim	BEKAA-Lebanon region	Lebanon
5	Amar	Aouci	ONDPA-Golden Fish Matares	Algeria
6	Anastasiades	George	Meneou Marine Aquaculture Research Station	Cyprus
7	Arnal Atarés	Ignacio	Instituto Español de Oceanografia	Spain
8	Atwi	Hassan	Ministry of Agriculture	Lebanon
9	Avila Zamorano	Pablo	Instituto Europeo de la Alimentación Mediterránea (IEAMED)	Spain
10	Baba-Ahmed	Rafik	AREAD-ED	Algeria
11	Belkahia	Rakia	Directorate General for Fisheries and Aquaculture (Ministry of Agriculture)	Tunisia
12	Bello Gomez	Emma	AquaTT	Ireland
13	Ben Amor	Ameur	National Federation of the Coastal Fisheries and Aquaculture	Tunisia
14	Blancheton	Jean-Paul	IFREMER	France
15	Blažeković	Kristina	Association for Nature Conservation and Research "Biodiversity"	Croatia
16	Bozan	Ihsan	Mugla Culture Fishermen's Association	Turkey
17	Callier	Myriam	IFREMER	France
18	Carballo Tejero	Paloma	Ministerio de Agricultura, Alimentación y Medio Ambiente	Spain
19	Chatziefstathiou	Michael	Ministry of Shipping & Aegean - General Secretariat of Aegean & Island Policy	Greece
20	Deniz	Hayri	Ministry of Food, Agriculture and Livestock	Turkey
21	Deslous-Paoli	Jean-Marc	CEPRALMAR	France
22	Djelladj	Larbi	Sarl. Azzefoune Aquaculture	Algeria
23	Eroldogan	Tufan	University of Cukurova, Faculty of Fisheries	Turkey
24	Essa	Mohamed	National Institute of Oceanography and Fisheries (NIOF)	Egypt
25	Froyman	Nir	Ministry of Agriculture & Rural Development	Israel
26	Furones Nozal	Dolors	IRTA (Institut d'investigació de la Generalitat de Catalunya)	Spain
27	Gaume	Matthieu	ITAVI	France
28	Grigorakis	Kriton	Hellenic Centre for Marine Research	Greece
29	Hurvitz	Avshalom	Dan Fish Farms	Israel
30	IdHalla	Mohammed	Institut National de Recherche Halieutique	Morocco
31	Ilgaz	Serkan	KILIÇ DENİZ	Turkey
32	Kara	Mohamed Hichem	University of Annaba	Algeria
33	Kholeif	Suzan	National Institute of Oceanography and Fisheries (NIOF)	Egypt
34	Kozah	Anwar	North Bekaa Department - Ministry Of Agriculture	Lebanon
35	Kraïem	Mejdeddine	Institut National des Sciences et Technologies de la Mer	Tunisia
36	Lane	Alistair	European Aquaculture Society	Belgium
37	Louhah	Mohammed	Association Marocaine de l'Aquaculture (AMA)	Morocco
38	Lowen	Paul	AquaTT	Ireland
39	Macias	Jose Carlos	Diseño y Desarrollo de Proyectos Marinos,S.L	Spain
40	Marino	Giovanna	ISPRA	Italy
41	Massa	Fabio	FAO - GFCM	Italy
42	Mathé	Syndhia	University of Montpellier	France
43	Menicou	Michalis	Frederick University	Cyprus
44	Miletic	Ivana	Ministry of Agriculture, Department of Fisheries	Croatia

ANNEX II: LIST OF PARTICIPANTS

	Surname	Name	Institution	Country
45	Mladineo	Ivona	Institute of Oceanography & Fisheries	Croatia
46	Mozes	Noam	Agricultural Research Organization	Israel
47	Nhhala	Hassan	Institut National de Recherche Halieutique	Morocco
48	Özdemir	Atilla	Ministry of Food, Agriculture and Livestock	Turkey
49	Papila	Yavuz	Liman Entegre Balıkcilik Ltd	Turkey
50	Pasters	Roberto	Università Ca' Foscari Venezia	Italy
51	Prioli	Giuseppe	Associazione Mediterranea Acquacoltori (AMA)	Italy
52	Rana	Raj	The Wolf Group	Switzerland
53	Rene	Francois	IFREMER	France
54	Rey-Valette	Hélène	University of Montpellier	France
55	Rigos	Georgios	Hellenic Centre for Marine Research	Greece
56	Rosenfeld	Hanna	National Center for Mariculture	Israel
57	Saidi	Mohamed	Transis Afrique Traders	Morocco
58	Salvador	Pier Antonio	Associazione Piscicoltori Italiani	Italy
59	Sarf	Farida	Agence Nationale pour le Développement de l'Aquaculture	Morocco
60	Shabaan	Mohamed	General Authority for Fish Recources Development (GAFRD)	Egypt
61	Tritar	Slim	FMB Bizerte	Tunisia
62	Ucko	Michal	Israel Oceanographic & Limnological Research. National Center for Mariculture	Israel
63	Vidov	Zdenka	Cromaris d.d.	Croatia
64	Vielmini	Ilaria	AquaTT	Ireland
65	Yaish	Yosi	Fish breeder association	Israel
66	Yildirim	Bulent Serdar	AKUAMAKS Aquaculture	Turkey
67	Zalouk	Yomna	National Institute of Oceanography and Fisheries (NIOF)	Egypt
68	Zarkadas	Iannis	SELONDA AQUACULTURE S.A.	Greece
69	Zizah	Soukaina	Institut National de Recherche Halieutique	Morocco

ANNEX III

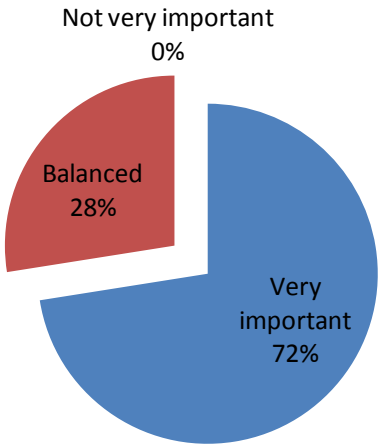
STAKEHOLDERS FEEDBACK ON THE MEETING

AQUAMED

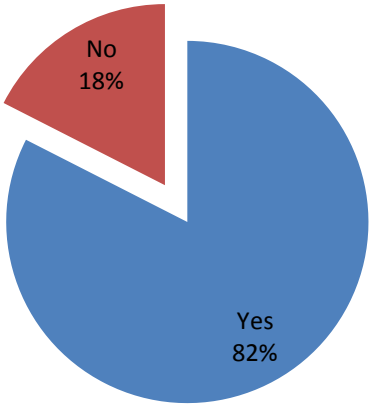
ANNEX III – STAKEHOLDERS FEEDBACK ON THE MEETING

1. PLATFORM

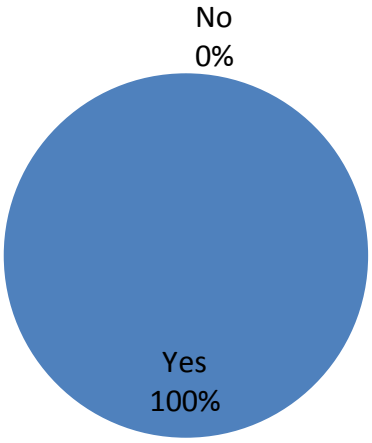
What do you think about the relative weight of the work sessions?



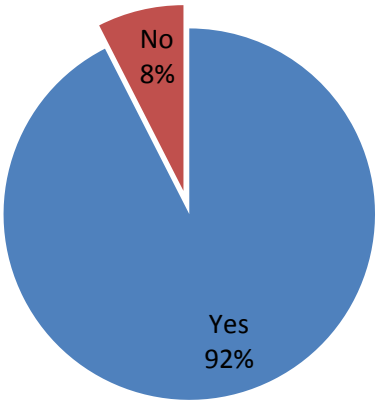
Do you think that the representation from each country was adequate?



In your opinion, were the constraints tackled during the meeting the most important to address?



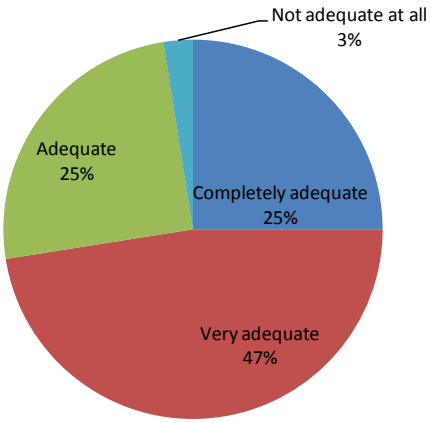
Have you networked with people that could be relevant to you?



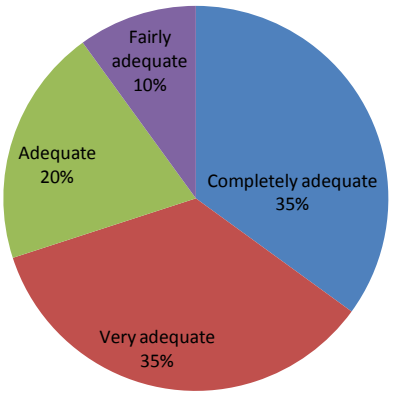
ANNEX III – STAKEHOLDERS FEEDBACK ON THE MEETING

2. WORKSHOP METHODOLOGY

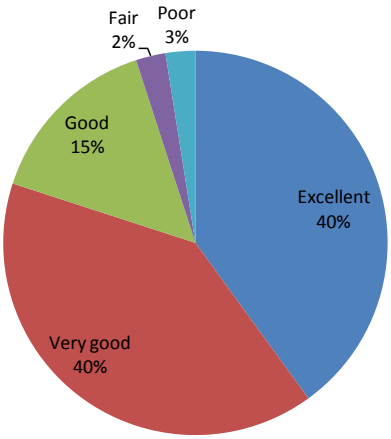
In your opinion, was the methodology used during the workshop adequate to achieve the final objective?



Were the explanations given during the workshop clear to follow?



In general, how would you rate the methodology used within the workshop?

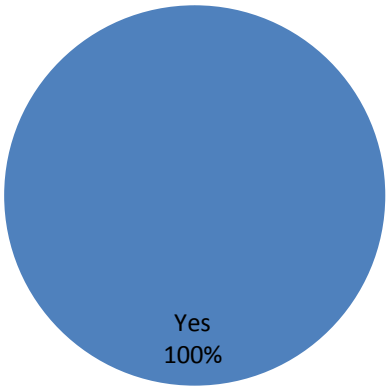


ANNEX III – STAKEHOLDERS FEEDBACK ON THE MEETING

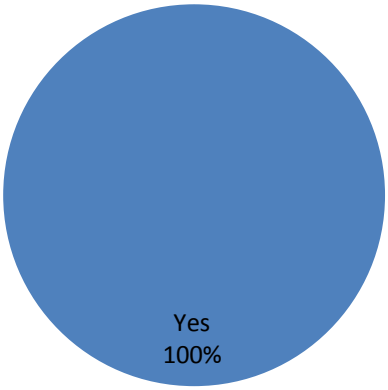
3. WORKSHOP RESULTS

How would you rate the results obtained within the meeting?

Are you interested in receiving a meeting report?



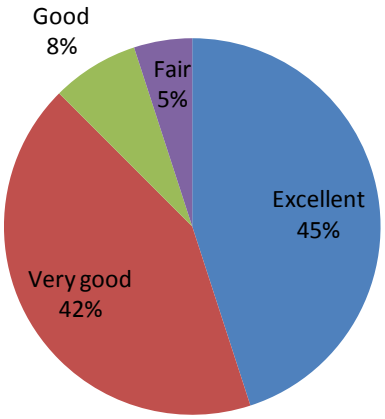
Are you interested in the results of the Platform meeting?



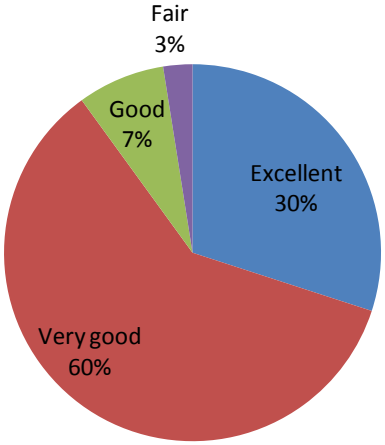
ANNEX III – STAKEHOLDERS FEEDBACK ON THE MEETING

4. GENERAL IMPRESSION

How would you rate your experience of the workshop?



How would you rate the workshop overall?



What did you prefer?