

## Report

# 24<sup>rd</sup> Meeting of Directors of Fisheries and Aquaculture Research Organisations (EFARO) of the EU

Tuesday 13 – Thursday 15 May 2014

Meeting Location:

Ancona, Italy





## Introduction

The main theme of the meeting was on fisheries and aquaculture with particular focus on the Mediterranean. Fishery management in the Mediterranean presents major challenges in international co-operation and collaboration and we heard from experts both in science and management. The EFARO Aquaculture working group had a session on strategic issues resulting from their recent work. In addition DG-Mare made a presentation on the developments resulting from the revision of the Common Fisheries Policy and its implications for the science provided by EFARO institutes

## Meeting report

**Tuesday, 13 May 2013**

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### EFARO General Assembly

*All participants*

#### **Session 1 Opening**

The EFARO general assembly was opened by President Gerd Kraus.

#### **PowerPoint 5 – Marine research at CNR (Fabio Trincardi)**

A tour along the research areas and activities of the host of the General Assembly CNR-ISMAR Director (Fabio Trincardi).

#### **PowerPoint 6 – State of fisheries and aquaculture in Italy (Mauro Bertelletti)**

A presentation by Mauro Bertelletti of the General Direction of Fishery and Aquaculture, Italian Ministry for Agriculture, Food and Forestry Policies. The status of fisheries and stocks of the Italian waters are presented as well as the main species produced in aquaculture, in the marine and fresh water. He gave a view of the economics of the fisheries industry, including import and export figures and for both topics a link to European policies and implementation in Italy is made. Related data collection and (possible) research activities were also discussed.

#### **PowerPoint 7 – Good news and bad news from the Mediterranean front (Frédéric Briand)**

Bad news in the Mediterranean was highlighted to start with. In the Mediterranean the following issues are of top concern: contaminants (bio magnification, acidification, public health, plastics), overfishing (fishing down the foodwebs, extinctions, invasive species, massive ecosystem shift), governance (data deficient EU stocks, shared resources between too many conflicting users, the legal mosaic of regional seas).

The good news can be found in how to deal with the issues above. There are signs of restoration of Bluefin Tuna stocks. There are new legal CFP tools, and new partnerships for marine co-governance and more cases of science-fishermen cooperation have shown to be effective in conservation initiatives and managing fish/lobster stocks. There are vast prospects from marine biotech to e.g. reduce contaminants from aquaculture or designing biomimetic antifouling surfaces. To finalize he placed a question at the EFARO table whether we as scientists have a responsibility to alert, as the knowledge of the status of the seas is with science.

In the discussion it was mentioned that the topics need to be included / prioritized in the H2020 16 + wp development by EFARO.



## Session 2 Aquaculture

### PowerPoint 8 – Work group Aquaculture introduction (Martin Scholten)

Introduction on the AWG action plan and the route to define key challenges for the follow-up of the position paper towards H2020 call 2016/17. The first action of the Task Force was to identify the aquaculture representatives of each institute. Furthermore the Task Force aims to gather and share information of all members on aquaculture research and to prioritise topics for the H2020 16+ work program. To do so there was an interactive discussion scheduled; Martin introduced the method to have an interactive discussion based on the 'houses of parliament' principle: a statement is presented at the screen and participants are asked to move seats according to their opinion. The room is divided in two sides. If the participant agrees with the statement he/she is asked to sit at one side of the room, if the participants disagrees he/she is asked to sit at the other side. The first statement is: Aquaculture is important for my institute. The majority says yes.

To identify the priorities, the following topics were pitched and discussed:

### PowerPoint 9 – Aquaculture Pitch Seafood based nutritional security, yield gap management by Tammo Bult

In agriculture there is already a lot of experience in Yield Gap Analyses. For fisheries and aquaculture we could benefit of that knowledge. The way we produce and use fish very much depends on the needs: In Europe we produce fish to fulfil human health while respecting the environment. In developing countries production is prioritised to address basic food security and livelihoods.

**statement 1:** research "*beyond precautionary approach*" needed for Optimal use Ocean Production Potential.

The majority supported the proposition. The members discussed the need to define what is the optimal situation: fish produced for feed AND food, in a sustainable way. Blue growth needs research. Blue growth will be a mayor impact on the sea and change ecosystems. Research is really needed on what will be the impact; that is research that goes beyond the current standards, beyond the precautionary approach. It is a domain where capture fisheries and aquaculture should work side by side, they need each others resources backed up by agriculture science.

**statement 2:** Yield Gap analyses are lacking: Ocean Production Potential for Nutrient Security is underestimated.

The location of the production is important in relation to food security needs. The foods security is a global issue, not as much an European one. EFARO agreed with further growth aquaculture but this implies we produce to export. The limiting factors of coastal zone aquaculture need more technical research.

**statement 3:** lack of 'plug & play' land based marine production systems limits the blue revolution.

10 people say no. They have 'mixed feelings'. Aquaculture Revolution is not tackled by plug and play solutions.. If land based aquaculture is increasing, there is less space for agriculture production. There is a needs for cooperation between green and blue revolution. Land based aquaculture is energy consuming, questioning the sustainability though it is compared to other animal production the most neutral system. The Commission states that there is a lack of research on the BLUE ENERGY revolution (aquaculture to be developed in combination with the energy production)

There is the opinion that plug and play systems are not possible: aquaculture is not standardized like animal production. It is stated that in this discussion we lack the 'consumer perspective' Some people do not eat fish; if we want to use fish to ensure food security, we need to focus on cultural habits of those people that we are producing for.

### PowerPoint 10 – Climate smart aquaculture by Giovanna Marino

Aquaculture can adapt to climate change better than other food production systems; it is the most climate neutral production system and has a lower carbon footprint than agriculture.

**statement 1:** climate smart aquaculture requires more knowledge

The members do all agree on this statement but the question is: what knowledge do we need? The Commission supports this topic and admits that at a commission level knowledge is lacking but they

suggest this topic is postponed in the H2020 work program. Knowledge needed for example on toxic blooms, developing diseases.

It is concluded that the participants do not know enough on this topic to discuss this in detail.

**statement 2:** adaptation is needed for effective mitigation

Everybody agrees. Why don't we eat ingredients instead of using them for feed? (algae). There have to be limits to adaptations., the species have to be in their niche: ecological limits have to be taken into account.

**statement 3:** Integrated Multi trophic aquaculture is more climate smart.

No: aquaculture is business and this is environmental, environmental is not business. Is this economical feasible? Apparently not (though it is in China), so the business model is not ready yet.

No: integrated is less climate smart. Though depends on which system you compare it with.

Again, feeding the fish is not climate smart.

Conclusion: probably aquaculture is much more climate smart then other but there are still GAPS to explore.

## **PowerPoint 11– Aquaculture Pitch aquaculture technology in fisheries by Michael Gubbins.**

There are a number of issues in capture fisheries: pressure on fisheries, coastal zone management, environmental impacts, economic / market pressure that could be solved by using aquaculture techniques: postharvest techniques can be improved, requirements of the market can be met more efficiently, restocking juvenile stages of pressured stocks to support coastal fisheries.

**statement 1:** improvements in post harvest handling of live crustacean by use of RAS techniques for storage live crustacean.

No: there is no market for it, we preferably do not want to store them alive, it is too expensive.

Yes: because the consumer wants them alive, already onboard handling improvements might be cost efficient.

However cost benefit analyses needs to be done, in terms of how advanced these systems should be.

**statement 2:** Use of ranching technologies in capture based fisheries

Majority against:

- maybe to restock depleted stocks
- We need genetic diversity
- doesn't work for many species
- carrying capacity of the system?
- risk of altering equilibriums, e.g. to many predators released.
- in theory agree there is potential, but at the moment investments are high

Arguments in support: There are many good examples all over the world, not new and threatening. It's not just a technical question but also question on how to governing this. 'who owns the restocked fish' 'let not your neighbour catch them'.

**statement 3:** improvement in flesh quality of wild caught cod by use of capture technology and keep them alive.

Majority against: is it cost effective to use? it is a commercial decision rather than a science issue. The research investment decision should be linked to the question of whether the investment is worth it.

Conclusion: Research is needed to identify better what fisheries can learn from aquaculture with respect to marketing the product.

There are also other topics that are related to this pitch: (commission) genetic issues we can learn from aquaculture. Growth studies related to fisheries in the wild.



## **Concluding remarks:**

The aim of this session was to offer a wider perspective on aquaculture --> this will be also appointed in next version of the Key topics document.

- fits in blue growth
- potentially food production with lower impact on the environment
- technology

The publication on needed research topics will be reviewed and adjusted (more sharp formulated). An important element of EFARO is economics, would be helpful to take them into account as well. The aquaculture workgroup will connect with COFASP and SCAR-fish.

## **Session 3 Tuna in the Mediterranean**

### **PowerPoint 12 – Mediterranean Bluefin Tuna; a tortuous road to success by Josu Santiago (ICCAT)**

For many years, the Mediterranean bluefin tuna (BFT) fishery was considered mismanaged and out of control. Despite the TAC that installed in 1998 there was a strong concern about the catch and catch-at-size quality and quantity of BFT. Catch data available was not sufficient due to underreported catches by ICCAT since the TAC implementation, illegal fishing and loss of information by caging. The ICCAT (International Commission for the Conservation of Atlantic Tuna's) GBYP (Grand Bluefin Tuna Year Program) Atlantic wide research program for bluefin tuna was started in 2010. Achievements within this program were presented. Since 2008 data quality and quantity has improved and recent regulatory measures significantly affect most of the fisheries and consequently some key fisheries indicators.

### **PowerPoint 13 – Farming, Bluefin tuna closed life cycle coming to a solution by Fernando de la Gandara (IEO, Spain)**

The fact that the captive BFT brood stock spawned massively in a spontaneous way and far from the BFT natural spawning areas, from 2010 up to now shows that the conditions present in the area are sufficient to allow completion of the reproductive cycle and the fish have reached an important degree of domestication as a result of their stay at the experimental farm for several years. The sea weather and currents have a crucial influence on the amount of collective eggs. However there are some problems still to be tackled.



Wednesday, 14 May 2014

**Session 4**      **Session with the European Commission & ICES** *EFARO members and invited guests*

## **PowerPoint 14 – ICES perspective on regionalisation by Eskild Kirkegaard (ICES)**

Regarding regionalisation under the new CFP the member states need to cooperate with one another in formulating joint recommendations on conservation measures, multiannual plans, environmental legislations. To do so new regional groups are being formed, like for example the Scheveningen group in the North Sea and the Baltfish group in the Baltic Sea. The joint recommendations on conservation measures should be based on the best available scientific advice. ICES has developed a sound independent process to provide such an advice and has experience with regional approach but is not (always) consulted. Eskild proposed that ICES have a role in recommendation drafting to avoid what recently has occurred with a plan from BALTFISH; where the plan was reviewed by STECF and found to be too thin. At the same time with these regional groups asking expertise, the pressure on resources from the EFARO member institutes is also increased. As the advisory system is already stressed and better coordination is needed.

Another issue is the need for member states to coordinate their data collection activities with other Member States in the same region, and to make every effort to coordinate their actions with third countries having sovereignty or jurisdiction over waters in the same region. ICES has a key role to play in setting up requirements for data that needs to be collected and also would like a role in this.

## **PowerPoint 15 – Implementation of the revised CFP by Kenneth Patterson (European Commission)**

With regard to regionalisation Kenneth emphasises that there should be unanimous agreement with regard to the regional plan. The role of the Commission is to ensure that measures comply with the objectives of the CFP before incorporating the content of joint recommendations into EU law. The plans are validated through STECF. In the multi-annual plan the objective is to be within F-MSY ranges for relevant stocks. Science needs to help with completion of MSY range estimation for the main target species and also to bring more stocks into MSY estimation, especially in the Mediterranean and Black Seas. From 1-1-2015 onwards the landing obligation will be implemented for the first fisheries being: all pelagic fisheries, industrial fisheries, salmon fisheries in the Baltic Sea. There are exceptions and flexibilities in the regulation, for example for prohibited species and species with high survival rate. Up to 5% (initially 7%) discarding may be allowed where selectivity can't be improved and where costs of handling unwanted catches are too high according to the de minimis rule. This can only be available through a multiannual plan (co-decision) or a discard plan. Again these exceptions should be based on scientific advice.

The customers for advice on technical measures and conservation measures will increase (MS and ACs). COM will manage the flow of requests and ensure proper planning of work.

## **PowerPoint 16 – ICES Strategic and resources coordination tool by Anne Christine Brusendorff (ICES)**

Integrated ecosystem understanding is the key challenge presented in the ICES strategic plan (2014-2018; [http://www.ices.dk/explore-us/what-we-do/Documents/ICES\\_Strategic\\_Plan\\_2014\\_2018.pdf](http://www.ices.dk/explore-us/what-we-do/Documents/ICES_Strategic_Plan_2014_2018.pdf)). ICES has made the strategic choices to further develop work on the Arctic and aquaculture and enhance the training programme. Further ICES aims increased communication with stakeholders/informed public. The key principles of the strategic plan are to address information gaps and needs, ensure strategic partnerships and use limited resources efficiently.

After discussions with EFARO regarding the limited resource problem in the advisory process, ICES is working on a resource coordination tool. The tool aims to enable institute resource managers to prioritise and plan, according to proposed work plans. It will give an overview of resource use and will provide a basis for prioritization by advice requesters, advice providers and expertise providers. The tool is an online facility and is open to other advice providers such as STECF, GFCM scientific council and beyond the EU. ICES is planning a soft launch and is open comments and wishes to improve the tool during the process.



# European Fisheries and Aquaculture Research Organisations

## PowerPoint 17 – How will H2020 support the blue growth. By Jacques Fuchs (European Commission)

The blue growth focus area was explained. There are also other examples of maritime research in other parts of H2020. The topic of Regionalisation of fisheries management needed more work and is therefore postponed to 16-17 call.

The research for SME's activities is explained.

The commission needs input from EFARO but be aware of the timing: end of June 2014.

1. questions related to CFP
2. be aware what has been covered in 1<sup>st</sup> 2 years
3. think big and be ambitious and innovative.

Foresight is supposed to be finished end of June

Maurice Héral commented:

1. foresees no more ERANETS
2. lack of attention for Mediterranean. Is a commission decision taken at high political level. MED is more complicated, lot of (non) EU countries.
3. topic pollutants of contaminants through the trophic web.

## PowerPoint 18 – Towards a strategic research and innovation agenda JPI Oceans by Pierpaolo Campostrini (CORILA)

JPI pilot actions:

1. multi-use of infrastructures for monitoring in the north sea
2. ecological aspects of deep-sea mining
3. ecological aspects of micro-plastics
4. new: intercalibration for coastal and transitional waters

JPI is important because it reflects the member states. Given all the challenges, how fast is JPI able to manage/ deliver (overarching research management plan)? JPI is able to integrate maritime and marine issues e.g. not only ministries of fisheries. In blue growth strategy also Member States should have a say and that is where the JPI process is contributing. JPI is fully ready to receive any suggestion to further increase of cooperation.

## Session 5 Challenges for fisheries & aquaculture science in the Mediterranean

### PowerPoint 19 – Actions of GFCM for aquaculture development in the Mediterranean and Black Sea by Fabio Massa

The General fisheries Commission for the Mediterranean (GFCM) objective is to ensure long term sustainability of living marine resources, sustainable development of aquaculture and protection of sensitive habitats. It has a committee on aquaculture and a working group on site selection and carrying capacity. The questions to EFARO is: how does the situation in north Africa effect your work: aquaculture is the future. But the different regulations are a problem. Science knowledge in those countries is on level and they have important knowledge.

### PowerPoint 20 – Actions of GFCM for fisheries development in the Mediterranean and Black Sea by Miguel Bernal

The structure of GFCM decision making for fisheries is explained briefly. Data on catch, by-catch, fleet, effort, socio economics and biological information is collected. The knowledge on the status of stocks is shared. Several management plans are in place; conservation measures, fighting IUU and Small Scale Fisheries. Joint actions with several projects/groups were undertaken. There are STECF links but not in a formal MoU. They also have a lack of resources compared to ICES.



## European Fisheries and Aquaculture Research Organisations

### PowerPoint 21 – Regional cooperation for fisheries and aquaculture in the Mediterranean Sea: FAO AdriaMed and FAO MedSudMed regional projects by Enrico Arneri (FAO)

Non EU members are in the data collection program and supported by the project like Albania and Montenegro. Algeria is different because it is much larger coastline. With Libya there is problem that we cannot go there but the work is performed normally by Libyan people. Collaboration with Tunisia is good as they have a data collection system and a management plan but these are not harmonised with others e.g. Italia

Mainly work with network projects and facilitate only but it is stressed that the importance is to create a climate on integrated approach and there it movement to good data collection.

There is cooperation with STECF, but this is not formal. Problem with resources but close collaboration with FAO. It is difficult to have a complete coverage of the stocks with the resources available.

### End of meeting



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