



European Organic Aquaculture - Science-based recommendations for further development of the EU regulatory framework and to underpin future growth in the sector

Deliverable 7.2

Progress report and financial report for 1st period

Due date of Deliverable: M18

Submitted to EC: M18

Responsible for Deliverable: Nofima (Åsa Espmark)

D7.2 is exactly identical to M18, that will be submitted before September 2015 when OrAqua participants have reported their actions until M18. This is also why financial report is not included in D7.2

FP7-KBBE. 2013.1.2-11 Assessment of organic aquaculture for further development of European regulatory framework
Coordinator: Åsa Maria Espmark. Funded by the EC (**Grant No: 613547**)
www.oraqua.eu



1. Publishable summary

Organic farming is one of the most dynamic food production sectors in Europe although it still feeds a relatively young market segment. Organic agriculture is based, according to IFOAM, on the four principles of health, ecology, fairness and care. Furthermore, IFOAM defines organic agriculture as ‘a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved’. The Regulation (EC) No 834/2007 establishes analytically the principles guiding the organic farming at the articles 4) Overall principles, 5) Specific principles applicable to farming, 6) Specific principles applicable to processing of organic food, 7) Specific principles applicable to processing of organic feed. These principles can also be applied for organic aquaculture. Organic aquaculture started in Europe with carp and salmon farming in the nineties. In 2000, IFOAM published its first draft basic standards for organic aquaculture. These became fully accepted basic standards, five years later, and stimulated an increasing growth of organic production of seafood. In consequence, organic aquaculture products have received increasing interest from consumers, as well as from retailers and certifying bodies. In June 2004 the Commission launched the European Action Plan for Organic Food and Farming (COM(2004)415 final), with which the Commission intended to assess the situation and lay down the basis for policy development, thereby providing an overall strategic vision for the contribution of organic farming to the Common Agricultural Policy. In 2009, organic aquaculture was regulated at EU level (EC Regulation 710/2009), after a thorough process spanning several years to streamline a number of different organic standards and national certification schemes in Europe. A common European regulation that created basic standards was highly welcomed, but also brought up many issues, such as fish welfare, feeds and environmental concerns, which are still not resolved.

An Expert Group for Technical Advice on Organic Production (EGTOP) was established by the Commission Decision 2009/427/EC of 3 June 2009 to advance the development of better regulation.

Within this framework, the aim of OrAqua is to rapidly advance the science base of organic aquaculture on a pan European scale. OrAqua will provide robust and quantified scientific advice for a possible revision of the EU rules for organic aquaculture, taking into account different fish species and production systems, animal welfare, veterinary treatments and environmental aspects as well as economic and consumer perspectives. We have prioritised wide dissemination of the project results and meaningful engagement with stakeholders in order to benefit the organic aquaculture industry and society as a whole.

The objectives of OrAqua are to:

1. Reassess the relevance, measurability and applicability of the main technical provisions of Regulation EC 710/2009 for organic aquaculture against the basic organic principles;
2. Generate robust science based recommendations for potential updates of the EC regulation as regards aquaculture of fish species, molluscs, crustaceans and seaweed, based on comprehensive reviewing, research and assessment, in addition to integrating feedback from key stakeholders through a participatory action research approach;
3. Produce executive dossiers on the main technical background behind the recommendations that will emerge from this project. These will follow the structure of Chapter 3 of Annex II to the rules of procedure (final report template) of EGTOP;

4. To underpin consumer demand for organic aquaculture products and development of organic aquaculture industry by giving robust and relevant recommendations, integrating aspects of consumer perceptions, unique competitive qualities as well as production systems, business and market economics and regulatory framework.
5. To propose a model of structure for continuous assessment and advice on the improvement of regulations of organic aquaculture in the future, taking account of new scientific insights and changing competitive market environments.

The flow of information and knowledge generated by OrAqua will be utilised within and between seven work packages as indicated in the pert diagram in Figure 3.1.

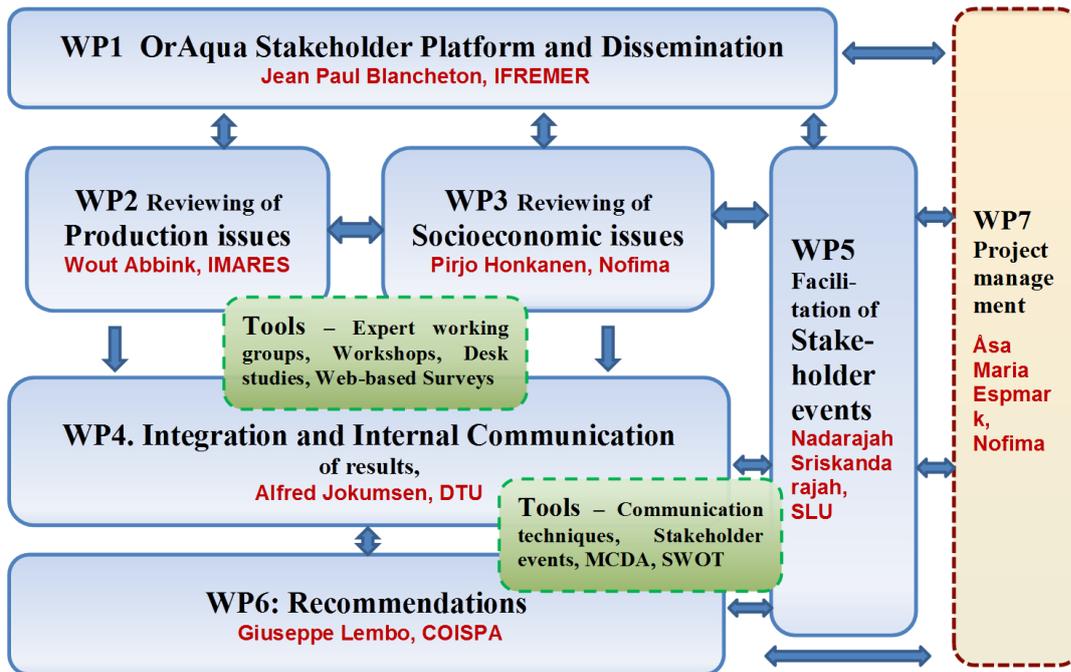


Figure 3.1. The flow of information and knowledge generated by OrAqua will be utilised within and between seven work packages

The partners,

project the

participants in the multi-stakeholder platform and the public, will interact during the project, and this must be formally organized and managed (WP7).

The overall aims of WP1 are (1) to coordinate and facilitate the consultation with relevant stakeholders for planning of the 3 stakeholder meetings (WP5) and in between, in order to validate the project results and to receive their feedback and (2) to disseminate the project results (outputs from WP2, 3, 4, 5 and 6) towards the aquaculture industry, policy makers and the consumers, through the OrAqua website and printed documents.

The aim of WP2 is to collate and review the art of scientific knowledge on production issues in organic farming. The work will focus in particular on a comprehensive review of the key aspects fish feed and nutrition, health and welfare, veterinary treatments, biosecurity, production systems and management, environmental interactions and sourcing of juveniles. The work will be based on the collection and review of the available literature, both scientific and grey, and the elaboration of the available data, metadata and indicators, to present an overview of the biological and technical potential on best organic practices. There is a focus on some key species (groups) for the European

aquaculture; finfish (Atlantic salmon, rainbow trout, common carp, sea bream and sea bass), shrimp, molluscs and seaweed.

WP2 is closely related with WP3 that focusses on socio-economics of organic aquaculture. In addition, WP4 will translate the information from WP2 and WP3 into a format available for stakeholders.

The overall aim of WP3 is to collect and review available information on economic, market and consumer related issues, and regulatory and institutional frameworks related to organic aquaculture. First, we aim to assess consumer perceptions, sentiments and understanding of organic aquaculture to promote consumer confidence and acceptance of organic farming principles. Second, we aim to improve understanding of the economics of organic aquaculture production and the competitive position of organic aquaculture products in EU markets. Third, we will explore critical development constraints and potential improvement in the institutional systems, to provide input to regulatory bodies for an increased organic aquaculture production. Finally, we aim to identify socio-economic issues/bottlenecks that need to be addressed for successful implementation of organic aquaculture.

The overall aim of WP4 is to transform the information from WP2 and WP3 into an easily conceivable format to be communicated to the stakeholders in the European organic aquaculture sector. Further, the feedback on this information from stakeholders (cf. WP1, WP5 and figure 3.1) will be analyzed and incorporated accordingly and up-dated communications will be provided for the multi-stakeholder platform (WP1).

Overall project perspectives are that the output of WP4 will be up-dated science based information balanced with stakeholder feed-back and interests related to the current EU regulatory framework for organic aquaculture and in line with organic principles and consumer confidence. Using appropriate communication tools, these latest results will be communicated in a readily accessible form to the multi-stakeholder platform (WP1) as well as making the results available to WP6 for a SWOT analysis.

The overall aim of WP5 is to plan and facilitate three events to involve and engage relevant stakeholders within Organic Aquaculture. We believe it to be of vital importance to take benefit from different stakeholders' interests, expertise and experiences and thus secure robust policy recommendations. The stakeholder events will be conducted in the following sequence;

- Event 1 for supporting the processes of reviewing (WP2 and 3) and integration (WP4) with input from stakeholders' different perspectives.
- Event 2 to survey stakeholders' values, attitudes and prioritise, and to initiate the decision making process generated by MCDA (WP4)
- Event 3 for building consensus on recommendations (WP6)

The overall aim of WP6 is to provide recommendations based on sound scientific evidences, within the framework of the organic principles, for the review of the EU rules for organic aquaculture. Recommendations will be based on the principles of the excellence of the technical/scientific knowledge and of the transparency of data, methods and assumptions made.

Recommendations will also take into account the objectives and principles laid down in Regulation (EC) No 834/2007.

1.1 A description of the work performed since the beginning of the project and the main results achieved so far

After a successful kick-off meeting 8th - 10th January 2014, the focus until M18 has been on the work in WP1, 2, 3, 4 and 5, supported by WP7.

The first task of WP1 was to establish a first list of platform stakeholders and of target end users for dissemination. The two lists were established and posted on the website: www.oraqua.eu during January 2014 (D1.1).

From M1 the website has been regularly updated and two project newsletters have been issued and posted on the site (D1.2). In parallel, a SharePoint was created in order to facilitate the information (publications and grey literature) storage and exchange between the partners, as a support to the WP2, WP3 and WP4 works. The list of the multi-stakeholder participants to the first platform meeting, which was held in Istanbul 11th – 12th October 2014, was established and posted on the web site by September 2014. During the project, the dissemination and platform participant lists have been regularly updated (D1.3). Preparations for the second stakeholder event in October 2015 are in progress in cooperation with WP4, WP5 and WP6. In particular, the next platform participant list will be modified, in order to ensure a better representation of some types of stakeholders (as consumers), which is necessary to fulfil the needs for the MCDA survey (partly carried out during the meeting), while preserving the continuity of the platform participation. From the beginning of the project, it was clear that the platform participant lists will be adjusted to the meeting needs, but it is important to keep a kind of continuity through a core group, preferably from representatives of relevant institutions (national representatives, key associations, etc).

During the first year of the project, the reviewing work of WP2 and WP3 has been prioritised in order to provide information to be analysed and synthesized in WP4 for presentation and discussion with stakeholders in the first stakeholder event in Istanbul in October 2014. State-of-the-art information on production related issues as well as information on consumer - and socio-economy issues and Institutional Frameworks have been reviewed to be reported in this report (M18). Further, feedback from stakeholders have been taken into account in the report, and will be updated in final review report due in M30.

The first version of the WP2 review is complete. This is structured around the four main topics based on the tasks of the WP (nutrition, welfare, production systems and environmental impact) and the main aquaculture species (-groups). Each partner was assigned to review certain topics and species, based on available white and grey literature and the present EU-regulation. The review draft was handed over to WP4 for compilation and presentation during the first stakeholder event in Istanbul October 2014. The review is a 150+ page document. The four main thematic areas (nutrition, welfare, production systems and environmental impact) are divided into relevant topics and reviewed by selected partners (experts). For each of the thematic areas, the corresponding EU-regulations are highlighted and when information is available, linked to the scientific knowledge on the thematic areas in the review. When no scientific knowledge about a certain EU-regulation article was found, this was designated as knowledge gap.

Based on the scientific knowledge, the EU-regulation and the knowledge gaps, recommendations to the EU regulation were stated for each relevant topic that was reviewed. For each of the thematic areas, the structure of the review is as follows:

- List of articles from the EU-regulations on organic aquaculture
- State-of-the-art scientific review
- Knowledge gaps and recommendations for the EU-regulation

Two workshops with experts of the thematic areas have been organised. The first one in IJmuiden, The Netherlands in April 2014 and the second one in Vodnany, Czech Republic in March 2015. The

goal of both workshops was to monitor the structure, planning and progress of the review with the responsible partners.

There are two deliverables for WP2 for this reporting period:

D2.1 (M18): Production issues in organic aquaculture

D2.2 (M18): Knowledge gaps

Both deliverables are integrated in the review; the production related issues and knowledge gaps are identified for each of the thematic areas.

WP3 consists of three tasks. Task 3.1 is concerned with consumer perceptions, sentiments and understanding of organic aquaculture. Relevant literature has been collected, including both scientific and grey literature published after year 2000, evaluated according to its relevance to the topic and a preliminary literature review has been written. The bibliography is organised according to the four themes that were decided upon at the kick-off meeting: production systems, welfare, environmental impact and feed issues. The preliminary literature review revealed gaps in the literature related to the four themes mentioned, and addressed in a representative consumer survey conducted in Germany, Italy, France and the UK. A questionnaire was developed by Nofima, and sent out to all partners in the WP and all WP leaders for comments. Four international sub-contractors were contacted in order to receive a quote for respondent recruiting and data collection. The survey was conducted in June 2014. The main finding in the literature study and the survey was that consumers have very low level of knowledge about organic aquaculture, and there seems to be a difference in consumer perception of what organic fish is and the current regulations, which represents a challenge for communication of the organic concept to the consumer. A SWOT analysis for organic aquaculture markets has also been performed in Task 3.1. in order to reveal the benefit of organic aquaculture for the consumers and the industry. The results from the literature review, the survey and the SWOT analysis are reported in deliverable D3.1.

Task 3.2 is concerned with the farm economics and competitiveness of organic aquaculture in Europe. A literature review has been conducted and a preliminary report is finished, and revealed that there are very few studies about socio-economic topics relevant to organic aquaculture. An economic impact matrix was developed to see what effects the organic regulations have on cost structure for the farms. An economic model has been developed and preliminary results were discussed with stakeholders at the stakeholder meeting in October. It seems that due to the density limits in the EU-regulation and a more cautious feed strategy, the production on farm level will decrease when a transition from conventional to organic aquaculture takes place (under the assumption that the production capacity will not change). This is particularly the case for salmon and trout. The maximum density in organic carp, sea bass and sea bream production does not differ from the conventional production systems. The production costs per kg fish in organic production systems are substantially higher compared to conventional production, but vary according to species. Main reason for this is that because of the lower production volume, the fixed costs will be spread over less volume (feed price, juvenile price, more labour). The results are published in deliverable D3.2.

Task 3.3. is about the institutional frameworks for organic aquaculture. The collection of literature has been completed and a review has been processed. There is little scientific literature and few analyses about the social science perspectives of institutional frameworks for organic aquaculture. It has thus been necessary to search more indirectly in the scientific literature where regulations are discussed more peripherally as a part of other scientific approaches, such as ecology, biology, technology, economic etc. Preliminary results were presented in the Stakeholder meeting in October 2014. One of the main findings was that bureaucratic production rules and control provisions are said to be one of the most significant problems with the existing regulation. In addition, the great variation between countries in regulations poses a barrier for organic production. The results from task 3.3. are reported in deliverable D3.3.

At the end of August 2014, the preliminary results from WP3 were delivered to WP4 for use in presentations at the Stakeholder meeting in October the same year. In November, a summary of the preliminary results was delivered to WP4 as input for D4.1.

WP4 has analysed and synthesized the preliminary information provided by WP2 and WP3 and presented this in review format at the 1st stakeholder event in Istanbul 11th – 12th October 2014. Further, WP4 has delivered D4.1 (M11) with in depth review, analyses and synthesis of preliminary information provided so far by WP2 and WP3 as well as feed-back from the 1st Stakeholder event.

WP4 is in charge of organizing the 2nd stakeholder event in Rotterdam 19th – 20th October 2015, i.e. travelling, accommodation, meeting venue logistics. The planning has been progressing since the evaluation of the 1st stakeholder event in Istanbul in October 2014. The 2nd event is organized back to back to the international aquaculture congress Aquaculture Europe 2015 (AE2015) organized by the European Aquaculture Society (EAS) 20th – 23th October in De Doelen Congress Center in Rotterdam. The French travel agency Liberté Selectour, which organized the travelling and meeting logistics at the 1st stakeholder event in Istanbul, has been engaged by DTU to assist at the Rotterdam event as well. Liberté Selectour will organize flight tickets, accommodation and meeting logistics. The meeting will take place at Hotel NH Atlanta Rotterdam close to the railway station and De Doelen Congress Center, where EA2015 will take place.

A main issue at the 2nd stakeholder event will be to initiate a first MCDA survey with the aim of assessing multi-stakeholders' goals, interests, alternatives and priorities among key issues for the economic development of organic aquaculture. The MCDA requires a properly weighted participation of the different categories of stakeholders (e.g. primary producers, aquaculture associations, NGO's, organic associations and control bodies, consumer organisations, retailers, feed producers, public institutions, researchers). Keeping in mind the target number of 80 participants for the event, the coordinators of WP1 and WP6 in cooperation with the coordinator of WP4 have prepared a list of 80 participants representing the whole value chain for the first round invitation. The first round of invitations was sent to 80 selected persons on May 1 2015 and included: (1) A personal letter of invitation explaining purpose and contents of the meeting, as well as practical information, (2) Preliminary program, (3) Registration form, (4) OrAqua 2nd Newsletter and (5) EAS promotion brochure. After the first deadline of registration (1st June 2015) a second round of invitations is planned to reach the target number of 80 participants at the event.

Since the beginning of the project WP5 has been working with the other WP's in order to plan, design and organise the first Stakeholder event. The "terms of reference" was developed into a document which describes the guiding principles behind the approach and methodology chosen. The "working guidelines" was developed into a detailed checklist, which is to be seen as a living document that shows how the events will be planned, managed and facilitated. The first Stakeholder Event was designed as a pre-conference event to the IFOAM World Congress held in Istanbul on the 11-12th of October 2014. We had 56 external participants at the event, representing different actor groups, resulting in a constructive and engaged discussion. WP5 was responsible for drawing conclusions and suggesting action points based on experiences made at the first Stakeholder Event. The action points provide feedback into the design of subsequent Stakeholder Events, and have already been discussed and analysed within the Project Management Board. Three deliverables have been submitted. D5.1 "Terms and guidelines for stakeholder events"; D5.2 "Reported Facilitation of Stakeholder events"; and D5.3 "Conclusions and actions points from the first Stakeholder Event". Experiences made at the first event have been integrated in the planning process for the second event. The main purpose of the second event is to survey the different stakeholder groups' attitude and values to central issues for organic aquaculture (MCDA). As a

complement to this, we aim to arrange dialogue sessions which focus on some of the issues raised by stakeholder at our first event as well as afterwards. This is a way to ensure a higher degree of participation. The checklist developed earlier has been modified and adapted to the new pre-conditions.

The starting month of WP6 is M22 (cf. DoW).

1.2. The expected final results and their potential impact and use (including the socio-economic impact and the wider societal implications of the project so far)

The objective of OrAqua is the aggregation and improvement of scientific knowledge and research to sustain established organic aquaculture and to suggest improvements by providing: i) recommendations for the regulatory framework for organic aquaculture in Europe and ii) increased understanding of organic farm economics as well as consumer perceptions and sentiments to guide farmers, regulators, policy makers and global seafood market actors.

OrAqua will improve the understanding of farm economics and the competitive position of organic aquaculture products in the EU markets; explore critical issues in the regulatory and legal framework at the national and EU level, thus providing input to regulatory bodies developing systems and standards for organic aquaculture at the EU level, and finally to identify socio-economic issues/bottlenecks that need to be addressed for successful implementation of organic aquaculture.

- The address of the project public website: www.oraqua.eu



Kick-off meeting 8-10th of January 2014, Ås, Norway



2nd WP2 work-shop 24-25th of March 2015, Vodnany, Czech Republic

2. Core of the report for the period: Project objectives, work progress and achievements, project management

2.1 Project objectives for the period

The overall aims of WP1 are (1) to coordinate and facilitate the consultation with relevant stakeholders for planning of the 3 stakeholder meetings (WP5) and in between, in order to validate the project results and to receive their feedback and (2) to disseminate the project results (outputs from WP2, 3, 4, 5 and 6) towards the aquaculture industry, policy makers and the consumers, through the OrAqua website and printed documents.

Objectives:

1.1. The first list of the first platform stakeholders and of target end users for dissemination were established on month 1. The list of the participants to the first platform meeting was completed and posted. The list for the second stakeholder event (Rotterdam, 19-20th of October 2015) was adjusted to the participation panel to the needs of the second platform meeting, which will include a MCDA survey with very specific requirements in terms of stakeholder's categories and number per category.

1.2. The project website is in operation and it is regularly updated since it was created on month 1. Any interested person can find the published documents as PPT presentations during public meetings and the two project newsletters, which were issued and are now posted. In addition, a specific web site zone with an access limited to the project partners and the platform stakeholders was created and contains more confidential project documents. It is accessible with a login and password

1.3. The dissemination of information is now carried out with two levels of confidentiality:

- A fully open site, in which the basic information on the project objectives, structure and main ongoing activities, the project newsletters and the presentations in public meetings are posted;
- A restricted access zone, in which the last stakeholder meeting participants can find the SHs list, the conclusions and actions points from the first stakeholder event and a synthesized information from the first stakeholder platform meeting.

1.4. The task of proposing the structure of the final multi-stakeholder platform and funding possibilities to sustain its operation after the end of the project is carried out progressively along the project and links are now being created between the project partners and some already existing multi-stakeholder platforms (as Aquasem (Asia), AMSHP (Mediterranean)), some key players in the field of organic products (IFOAM) through the preparation to the first platform meeting and EATiP were the current outcomes of the project were presented in April.

The aim of WP2 is to collate and review the state of the art scientific knowledge on aquaculture production issues, in particular on organic farming. The work will include a comprehensive review of the key aspects fish feed and nutrition, health and welfare, veterinary treatments, biosecurity, production systems and management, environmental interactions and sourcing of juveniles. The work will be based on the collection and review of the available literature, both scientific and grey, and the elaboration of the available data, metadata and indicators, to present an overview of the biological and technical potential on best organic practices. There is a focus on some key species (groups) for the European aquaculture; finfish (Atlantic salmon, rainbow trout, common carp, sea bream and sea bass), shrimp, molluscs and seaweed.

WP2 is closely related with WP3 that focusses on socio-economics of organic aquaculture. In addition, WP4 has analysed and synthesized the preliminary information provided by WP2 and WP3 and presented this in review format at the 1st stakeholder event in Istanbul 11th – 12th October 2014. Further WP4 has delivered D4.1 (M 11) with in depth review, analyses and synthesis of

preliminary information provided so far by WP2 and WP3 as well as feed-back from the 1st Stakeholder event.

Objectives:

2.1 To build a robust knowledge base for the best organic practices based on a comprehensive review of state-of-the-art scientific data.

2.2 To build an accessible information system on the needs, requirements and tolerances of the target fish species across an array of production systems and the characteristics of conventional and organic production systems to meet these requirements.

2.3 To identify the knowledge gaps on demands raised by science on nutrition, health and welfare, veterinary treatments, biosecurity, production systems and management, organic juvenile recruitment, slaughtering/harvesting procedures and environmental conditions.

2.4 To identify critical production related issues in the regulatory and legal framework at national and EU level, to provide input to future development of EU regulations, systems and standards for organic aquaculture production.

M1-M18 actions for WP2: the (sub)tasks were divided between the selected partners, based on expertise and these partners wrote scientific reviews on the specific tasks (thematic areas) that are incorporated into one review. The science in the review was linked to the current EU-regulation on organic aquaculture where possible. When no link between the science and the EU-regulation was found, this was defined as knowledge gap. When the knowledge gaps represent a possible limitation for the further development of the organic sector, this is formulated as recommendation for the EU-regulation.

Two workshops with experts of the thematic areas were organised. The first one in IJmuiden, The Netherlands in April 2014 and the second one in Vodnany, Czech Republic in March 2015. The goal of both workshops was to monitor the structure, planning and progress of the review with the responsible partners.

The overall aims for WP3 are to collect and review available information on economic, market and consumer related issues, and regulatory and institutional frameworks related to organic aquaculture.

Objectives:

3.1. To assess consumer perceptions, sentiments and understanding of organic aquaculture to promote consumer confidence and acceptance of organic farming principles.

3.2. To improve understanding of the economics of organic aquaculture production and the competitive position of organic aquaculture products in EU markets

3.3. To explore critical development constraints and potential improvements in the institutional systems, to provide input to regulatory bodies for an increased organic aquaculture production.

3.4. To identify socio-economic issues/bottlenecks that need to be addressed for successful implementation of organic aquaculture.

To achieve the objectives in WP3, review reports and scientific articles related to socio-economic issues in organic seafood production have been reviewed. The review of existing literature has been based on results from previous and on-going projects and other scientific literature retrieved from relevant databases, and available production and price data. It is necessary to make use of literature on organic food in general related to consumer and farm economic aspects because few studies exist explicitly on organic aquaculture. Additional data was collected to fill in the gaps in both consumer and economic findings. In the consumer task, a representative survey was conducted in four major markets (UK, France, Italy and Germany) for organic aquaculture products to fill in the gaps identified in the literature review. A SWOT (Strengths, Weaknesses, Opportunities, and Threats)

analysis for organic aquaculture markets has also been performed in WP3 in order to reveal the benefits of organic aquaculture for the consumers and the industry. The impact of the strength of the relevant values of organic aquaculture was estimated, e.g. animal welfare issues, health perception, risk perception, consumer trust (certification), relative price, (category) alternatives, availability. Quantifiable detailed economic data for organic fish farms have been difficult to access. However, based on experiences in previous studies an overview of the most important change factors (potential benefits) was made, that results from certification and the costs that are related to certification. This resulted in a model that can be used in a practical way by farms and companies to analyse the impact of certification on the cost structure of the farms. To explore the critical development constraints for organic aquaculture and potential improvements, an overview of the background and development of the management regime for organic aquaculture in Europe was produced. The work was based on the collection of the available governmental and nongovernmental documents and reports, and relevant literature on the subject. An evaluation was also made of to what extent the aquaculture industry in four European countries (France, Greece, Norway and Czech Republic) has implemented an organic aquaculture production, including the stimulation systems for increased organic aquaculture production. This work was based on governmental documents and interviews in the relevant countries. The partners in the countries in question participated in this task. The countries were chosen in the joint WP2 and WP3 workshop in IJmuiden, The Netherlands, on April 22-24 2014.

The overall aim of WP4 is to transform the information from WP2 and WP3 into an easily conceivable format to be communicated to the stakeholders in the European organic aquaculture sector. Further, the feedback on this information from stakeholders will be analyzed and incorporated accordingly and up-dated communications will be provided for the multi-stakeholder platform (WP1).

Objectives:

- 4.1. Analyse and integrate the information from WP2 and WP3 and 1st stakeholder event of WP5 (incl. WP1) in order to identify objectives (goals), criteria (interests), different options (alternatives) and priorities to build the methodological basis for Multi Criteria Decision Analysis (MCDA).
- 4.2. Transform the main output of WP2 and WP3 into a readily accessible form and communicate to the multi-stakeholder platform (WP1) and prepare a MCDA survey to WP5 (2nd stakeholder event).
- 4.3. Based on the MCDA survey provide input to WP6 for developing SWOT analysis and recommendations for revision and update of the EU regulation on organic aquaculture.

During M1-M12 preliminary state-of-the-art information provided by WPs 2 and 3 on production related issues, and on consumer - and socio-economy issues and Institutional Frameworks, respectively has been reviewed, analysed, and compiled for presentation at the 1st stakeholder event in October 2014 (M10) in Istanbul. Taking into account the feedback from stakeholders at this event, cf. D4.1, D5.3 and 2nd OrAqua Newsletter, the reviewing and analyses have been continued throughout M12 – M18. This in order to communicate an up-dated compilation of information in an easily conceivable format to be basic for the Multi Criteria Decision Analyses (MCDA) survey to be introduced at the 2nd stakeholder event in Rotterdam 19th – 20th October 2015. Further WP4 has delivered D4.1 (M 11) with in depth review, analyses and synthesis of preliminary information provided so far by WP2 and WP3 as well as feed-back from the 1st Stakeholder event.

The MCDA plays a significant role in the 2nd Stakeholder event. Hence, the information from the 1st stakeholder event is used to build the methodological basis of the MCDA i.e. identification of objectives (goals), criteria (interests), different options (alternatives) and priorities for preparation of a survey to provide feedback on multi-stakeholders perception on the European regulation of

organic aquaculture. The results from the MCDA survey will be analysed and made available to WP6 for a SWOT analysis and finally recommendations on the EU regulation on Organic Aquaculture (WP6).

Accordingly, MCDA techniques will be used to assess multi-stakeholders' goals, interests, alternatives and priorities of key issues for the economic development of organic aquaculture. Management of organic aquaculture is significantly complicated by the fact that more than one set of objectives and therefore criteria of relevance exists in evaluating its performances. Therefore, the aim of using MCDA techniques is to achieve the most optimum balancing of alternatives/trade-offs from feed-back and interests of the stakeholders relating f. ex. good fish health and welfare, environmental interactions, feeding and nutrition, farm economics and competitiveness. As in the “real world” situations, solutions to alternatives are reached as compromise solutions, resulting from trade-offs between various conflicting objectives of the stakeholders and decision makers, through negotiations to reach a consensus.

Since the 1st stakeholder event in Istanbul work has been in progress for setting up the methodological basis for the MCDA survey at the 2nd stakeholder event in Rotterdam.

The process is basically based on the following steps:

- Identifying the objectives or criteria (e.g. stocking density vs. water quality) to be used for influencing the final choice by stakeholders. These should be clearly specified and, as far as possible, mutually independent
- Forecasting, for each option, the hierarchy levels for each decision criterion
- Assigning a preference measure to each of these hierarchy levels for each option. The preference function may be a proportionate score (linear preference function), or a utility value (nonlinear preference function)
- Calculating the measure of overall value or merit to determine the best option using a simplistic weighted average of the scores, with the option providing the highest weighted score being the one that is “best”.

A test of the MCDA tool was performed at the WP2 workshop in Vodnany, Czech Republic in March 2015 using workshop participants as “stakeholder test persons”. The experiences and concomitant discussions are taken into consideration by improving the structuring of the MCDA activities at the 2nd stakeholder event in Rotterdam.

Hence, the MCDA survey will be introduced at the 2nd stakeholder event but, due to the limited number of stakeholders present at the event, a further web-based survey will be performed after the event, involving the whole stakeholder platform. Following the extended survey the outcomes will be analysed and interpreted in order to:

- Identify the highest priority issue(s) for stakeholders in relation to the existing EU regulatory framework and based on the state of the art of existing knowledge
- Compare relative performance of different options (e.g. production systems) across a number of competing objectives (e.g. animal welfare, environmental effects, competitiveness) or different stakeholder preferences (e.g. market prices, product quality, naturalness, profitability).

The process will look for the trade-offs between conflicting objectives, which can be associated to economic values or not, such as biodiversity, ecosystem services, ethical values reflecting consumer preferences, consumer sentiments and perception of organic aquaculture products, social acceptability including equity and fairness, needs of minimizing risk and uncertainty, etc. The

potential for further development of the European organic aquaculture as a competitive player in the global seafood market will be analysed in relation to the EU certification regulation and other certification schemes.

Based on the results and interpretation of the MCDA main information will be made available for WP6 for a SWOT analysis and finally recommendations on the EU regulation on Organic Aquaculture). Finally, WP4 will provide updated easily conceivable information to be disseminated in WP1.

As the OrAqua budget only allows participation of max. 80 participants in the 2nd Stakeholder event great effort has been made to select and make a balanced list of stakeholders representing specific categories within European organic aquaculture. A first round of invitations was sent to 80 stakeholders primo May 2015.

The overall aim of WP5 is to plan and facilitate three events to involve and engage relevant stakeholders within Organic Aquaculture.

Objectives:

- 5.1. Deliver three effective stakeholder events organized and conducted at critical points of time
- 5.2. Facilitate the process to secure collaborative learning and efficient and effective communication among participants
- 5.3. Document outcomes from the events for incorporation in WPs 2-4 and towards consensus in WP6.

The objectives of the work until M18 was to design, facilitate, document and analyse the outcomes of the first Stakeholder event and finalise the general planning for the second Stakeholder event. The stakeholder events will be conducted in the following sequence;

- Event 1 for supporting the processes of reviewing (WP2 and 3) and integration (WP4) with input from stakeholders' different perspectives.
- Event 2 to survey stakeholders' values, attitudes and prioritise, and to initiate the decision making process generated by MCDA (WP4)
- Event 3 for building consensus on recommendations (WP6).

So far, the first Stakeholder event has been conducted and documented, and we are right now in the preparation of the second event.

The overall aim of WP6 (starts M22) is to provide recommendations based on sound scientific evidences, within the framework of the organic principles, for the review of the EU rules for organic aquaculture.

Recommendations will be based on the principles of the excellence of the technical/scientific knowledge and of the transparency of data, methods and assumptions made.

Recommendations will also take into account the objectives and principles laid down in Regulation (EC) No 834/2007.

The specific objectives of this work package are:

- 6.1. To assess the relevance, measurability and applicability of the main achieved results regarding the different species/life-stages/production systems/environments, to the organic aquaculture EU regulation;
- 6.2. To generate sound science based recommendations for potential updates of the regulation, which reflect the holistic perspective of the project;
- 6.3. To facilitate a large diffusion of the recommendations among stakeholders;
- 6.4. To produce executive dossiers, on the main technical background behind the recommendations, according to the standard/template used by EGTOP to produce technical reports;

6.5. To realize a Policy Implementation Plan (PIP).

WP7 is the WP for Project management.

Objectives:

Provision of high level project coordination, appropriate organisational and financial securities, and project management support in order to secure the timely completion of project deliverables and reports in accordance with the EC Grant Agreement.

1. Coordinate and implement the DoW and Grant Agreement in a timely, efficient and successful manner.
2. Provide the periodic reporting to the EU for the evaluation of the implementation of the programme ensuring that correct and consistent financial and technical progress reports are submitted by participants, presented to the coordinator and submitted to the European Commission on time and in accordance with relevant guidelines.
3. Organize and coordinate the work and exchange of information, among Participants involved in the same or different WPs.

In the reporting period, WP7 has facilitated 15 PMB (project management board) meetings, 2 AC (advisory committee) meetings and 2 PGA (project general assembly) meetings. The next AC and PGA meeting will be held in Rotterdam, October 2015. The WP partners update the work progress every 3 months in a short internal report of Deliverables and eventual deviations from the plan (red-amber-green system). In addition, an internal interim report is delivered every 6 months. The format of the internal 6 month report is equal to the present M18 report.

D7.1 had its due date in January 2014, but since the Deliverable will progress through the entire project, an updated D7.1 is sent to the Project Officer after every approval of meeting minutes (PMB/AC/PGA). D7.2 was submitted M18.

2.2 Work progress and achievements during the period

The overview of the submitted Deliverables and fulfilled Milestones are given in Table 1 and 2, respectively

In total, 14 Deliverables (Table 1) have been submitted in the period M1-M18, and 7 Milestones (Table 2) have been fulfilled.

WP1 (OrAqua multi stakeholder platform and dissemination)

The overall aims of WP1 are (1) to contribute to the organization of the 3 stakeholder platform meetings (coordinated action with WP5), (2) to facilitate the consultation with the most relevant stakeholders during these events and in between, in order to receive their feedbacks and to validate the project results and (3) to disseminate the project results (outputs from WP2, 3, 4, 5 and 6) towards the aquaculture industry, policy makers and the consumers, through the OrAqua website and through printed documents.

Task 1.1. List of the first platform stakeholders and of target end users for dissemination:

The first lists were established on month 1 and they are regularly updated. The list of the participants to the first platform meeting is in annex 1. It was established in order to obtain, as far as possible, a balanced participation of the different types of stakeholders: producers of organic vegetal (algae) and animal (fish, shrimps and molluscs) products (including feed) and consumers, mainly from national and international representative organizations and companies; organic productions and certification specialists, researchers from various research fields (economy, image and communication, production systems and environment, biology) in relation with organic

approaches; Non-governmental organizations and governance; and of the different countries. The organization of the Oraqua platform meeting back to back with the IFOAM general meeting and the Organic World Congress in Istanbul enabled a larger contribution from experts in the field of all kinds of organic productions.

For the second stakeholder event, the first participant list was updated in order to, at the same time (1) include as many of the participants to the first platform meeting as possible (continuity of the project) and (2) satisfy the necessary stakeholder profiles to carry out the MCDA survey that will take place during the platform meeting.

Task 1.2. Dynamic and regularly updated website in operation:

The website was created on month 1 and is regularly updated. It is divided in 5 sections including now a protected section, which is accessible to a restricted number of participants (mainly the platform participants), using a login and a password. The program of the first platform meeting and the presentations are available in the 'first platform meeting' section. The lists are posted in the protected section, which hosts some of the most relevant project deliverables and key exchanges among the participants during and after the first platform meeting. During the reporting period, two newsletters have been produced. The first project newsletter was published in April 2014 and it was organized around the general presentation of the project and the description of each work packages. The second project newsletter focused on the Istanbul platform meeting, particularly the main information from the round table sessions, the thematic discussion and the way the collected information will be used in the next steps of the project. It announces also the second platform meeting and was published and posted on the site by February 2015.

Task 1.3. Dissemination of information (reports, leaflets, videos etc.) throughout the project (www.oraqua.eu):

The basic information on the project objectives, structure and main ongoing activities is available on the website (www.oraqua.eu), sections 'About Oraqua' and 'Oraqua WP organization'. The Oraqua project objectives and structure were presented during the last EAS meeting in San Sebastian (2014) and the outputs of WP2 and WP3 will be presented at the next EAS meeting in Rotterdam October 2015 (right after the stakeholder event). The project newsletters are posted in the 'Newsletters' section. The key information on the first platform meeting are posted in the 'First platform meeting section', which hosts short videos showing some of the key presentations and also interviews of some relevant meeting participants. As soon as WP2 and 3 deliverable are completed and the key information is presented in an easily accessible language through WP4, this information will be posted on the web site and summary leaflet will be prepared, presenting the information in a condensed form.

Task 1.4. Proposed structure and funding of the final multi-stakeholder platform for possible sustained operation after end of the project:

This task will be carried out progressively along the project and links are now being created between the project partners and some already existing multi-stakeholder platforms, in particular the Aquaculture Mediterranean Stakeholder Platform (AMShP), the EATiP platform, the Aquasem (Asia) platform, some national platforms and associations and key players in the field of organic products (IFOAM) through the exchanges of information during the first platform meeting. The current outcomes of the project were presented during the last EATiP meeting last April 2015 (7th Annual General Meeting, Brussels, 28th & 29th April 2015).

WP2 (Review of production related issues)

The overall aim for WP2 were to collate and review the art of scientific knowledge on production issues in organic farming, focusing in particular on a comprehensive review of fish feed and nutrition, health and welfare, veterinary treatments, biosecurity, production systems and

management, environmental interactions and sourcing of juveniles in organic aquaculture. The work will be based on the collection of the available literature, review and the elaboration of the available data, metadata and indicators to give an overview of the biological and technical potential on best organic practices.

Task 2.1. Organising two workshops with experts of the thematic areas.

Two workshops with experts of the thematic areas were organised. The first one in IJmuiden, The Netherlands in April 2014 and the second one in Vodnany, Czech Republic in March 2015. The goal of both workshops was to monitor the structure, planning and progress of the review with the responsible partners.

The first workshop focussed on the structure of the review and integration of the EU-regulations in the review, and selection of partners with the thematic areas.

The second workshop focussed on the progress of the review and remaining work. In addition, possible bottlenecks were discussed and resolved, to facilitate the final stages of completion of the review. Minutes of both meetings are attached in Annex 2.

Task 2.2. Review of state-of-the-art in nutrition, welfare and health, veterinary treatments, production systems and environmental interactions.

The thematic areas and subjects, the associated articles of directive 710/2009 EC, and the allocated partners for the subjects are all integrated in a spreadsheet to specify responsibilities.

The spreadsheet divides the work into four main themes; nutrition, welfare, production systems and environmental impact, and these four themes are subdivided in several specific topics. In addition, the spreadsheet includes the main species (-groups), e.g. salmon, trout, carp, sea bream/seabass, seaweed, crustaceans, shellfish. The partners involved in the writing were assigned to specific parts of the review, based on the spreadsheet and the partners expertise. To search for literature ISI web of science, and Google scholar were mostly used. Grey literature was found through Google and also in own databases. For most thematic areas, fact-sheets with abstract, key-words and relevance to organic regulations were produced and put on SharePoint. The reference list was also published on SharePoint.

The contributions of the partners were put together in a first draft of the review that is now complete. This first version of this review was used for WP4, for presentation at the first stakeholders meeting in M10.

Because of the volume of the first draft (>150 pages), as next step, the review was further structured.

The four 'chapters' of the review have been revised and integrated into one review. Each thematic area has a structure that suits the specific topics best, but are designated in such a way that the review as a whole document maintains coherence; firstly the articles from the E regulation on organic aquaculture that deal with the thematic area are listed, followed by a review of the scientific knowledge. Then, the knowledge gaps and recommendations to the EU regulation are documented. A summarising chapter is included as well.

Thematic area Nutrition

In perspective of the regulatory framework, organic production is a "system of farm management and food production that combines best environmental practices, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards and a production method in line with the preference of certain consumers for products produced using natural substances and processes. The organic production method thus plays a dual societal role, where it on the one hand provides for a specific market responding to a consumer demand for organic

products, and on the other hand delivers public goods contributing to the protection of the environment and animal welfare, as well as to rural development.” (EC 834/2007, rec. (1)).

Regarding feed and nutritional issues the current regulation states that ”genetically modified organisms (GMOs) and products produced from or by GMOs are incompatible with the concept of organic production and consumers' perception of organic products. They should therefore not be used in organic farming or in the processing of organic products.” (EC 834/2007, rec. (9)).

”Feed for fish and crustaceans shall meet the animal's nutritional requirements at the various stages of its development. The plant fraction of the feed shall originate from organic production and the feed fraction derived from aquatic animals shall originate from sustainable exploitation of fisheries. Non-organic feed materials from plant origin, feed materials from animal and mineral origin, feed additives, certain products used in animal nutrition and processing aids shall be used only if they have been authorised for use in organic production under EC 834/2007, Art. 16. Growth promoters and synthetic amino-acids shall not be used”. (EC 834/2007, rec. (15d)).

”Feed of mineral origin, trace elements, vitamins or provitamins shall be of natural origin. In case these substances are unavailable, chemically well-defined analogic substances may be authorised for use in organic production.” (EC 834/2007, rec. (16 2(e) (ii)).

According to Commission Regulation (EC) No 889/2008, art. 25j feeding regimes shall be designed with the following priorities: (a) animal health, (b) high product quality, including the nutritional composition, which shall ensure high quality of the final edible product; (c) low environmental impact.

“Feed for carnivorous aquaculture animals shall be sourced with the following priorities: (a) organic feed products of aquaculture origin; (b) fish meal and fish oil from organic aquaculture trimmings; (c) fish meal and fish oil and ingredients of fish origin derived from trimmings of fish already caught for human consumption in sustainable fisheries; (d) organic feed materials of plant or animal origin.” (EC 889/2008, art. 25k).

As regards shrimps, the Reg. 889/2008, art. 25l, par. 3, says that where natural feed is supplemented according to paragraph 2 the feed ration of species as mentioned in section 7 of the Annex XIIIa (penaeid shrimps) may comprise a maximum of 10 % fishmeal or fish oil derived from sustainable fisheries.

Organic aquaculture is a specific production approach driven by the growing interest in sustainable utilization of resources. There is increasing concern about the consumption of fish meal and fish oil for aquaculture feed due to the increasing demand from the expanding aquaculture industry and concerns about decreasing wild stocks. The current European regulation on organic aquaculture (Commission Regulation (EC) No 889/2008) does not allow fish meal and fish oil derived from traditional industrial fish, but only from trimmings of fish from organic aquaculture or from trimmings of fish already caught for human consumption in sustainable fisheries, in order to prevent reductions in fish stocks. However, Commission Regulation (EC) No 834/2007, Art. 15 Production rules for aquaculture animals, ”(d) with regard to feed for fish and crustaceans states that ”Animals shall be fed with feed that meets the animal’s nutritional requirement at the various stages of its development”. Still, the organic regulation does not allow balancing the dietary amino acid profile by supplementing with synthetic free amino acids to fulfil the dietary requirements of the specific organically produced species.

Thematic area Welfare

According to the current European legislation Reg. (EC) 834/2007, recital 1: “Organic production is an overall system of farm management and food production that combines best environmental practices, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards and a production method in line with the preference of certain consumers for products produced using natural substances and processes. The organic production method thus

plays a dual societal role, where it on the one hand provides for a specific market responding to a consumer demand for organic products, and on the other hand delivers public goods contributing to the protection of the environment and animal welfare, as well as to rural development”.

The organic production should meet animals’ specie-specific behavioural needs. This concept is expressed repeatedly in the Commission Regulation (EC) 834/2007, in order to emphasize the different ways in which it is taken into account the fish welfare. Specifically, within the Reg. (EC) 834/2007 it is worth to mention:

Recital 17: “Organic stock farming should respect high animal welfare standards and meet animals’ species-specific behavioural needs while animal-health management should be based on disease prevention. In this respect, particular attention should be paid to housing conditions, husbandry practices and stocking densities. Moreover, the choice of breeds should take account of their capacity to adapt to local conditions. The implementing rules for livestock production and aquaculture production should at least ensure compliance with the provisions of the European Convention for the Protection of Animals kept for Farming purposes and the subsequent recommendations by its standing committee”.

Art. 3 (a)(iv) “Organic production shall pursue the following general objectives: ... (iv) respects high animal welfare standards and in particular meets animals’ species-specific behavioural needs”.

Art. 15 1(b)(ii) “husbandry practices, including feeding, design of installations, stocking densities and water quality shall ensure that the developmental, physiological and behavioural needs of animals are met.”

The fish welfare during farming operations, such as transportation, as well as the minimization of any suffering of the animals, are also taken in consideration by the following articles: shellfish?

Art. 15 1 (b)(v) “transport shall ensure that the welfare of animals is maintained”.

Art. 15 1 (b)(vi) “any suffering of the animals including the time of slaughtering shall be kept to a minimum”.

The Reg. (EC) 834/2007, besides fish welfare, gives great attention to the health of fish and disease prevention. To this purpose, it is worth to mention:

Art. 5 (e) “Organic farming shall be based on the following specific principles: ... (e) the maintenance of animal health by encouraging the natural immunological defence of the animal, as well as the selection of appropriate breeds and husbandry practices”.

Art. 15 1 (f)(i) “disease prevention shall be based on keeping the animals in optimal conditions by appropriate siting, optimal design of the holdings, the application of good husbandry and management practices, including regular cleaning and disinfection of premises, high quality feed, appropriate stocking density, and breed and strain selection;

(ii) disease shall be treated immediately to avoid suffering to the animal; chemically synthesised allopathic veterinary medicinal products including antibiotics may be used where necessary and under strict conditions, when the use of phytotherapeutic, homeopathic and other products is inappropriate. In particular restrictions with respect to courses of treatment and withdrawal periods shall be defined;

(iii) the use of immunological veterinary medicines is allowed;

(iv) treatments related to the protection of human and animal health imposed on the basis of Community legislation shall be allowed”.

Art. 4 (a)(iii) “Organic production shall be based on the following principles: ... (a)(iii) exclude the use of GMOs and products produced from or by GMOs with the exception of veterinary medicinal products”.

In addition, the Reg. (EC) 834/2007 promotes disease prevention by the biosecurity:

Art 4 (a)(iv) “Organic production shall be based on the following principles: ... (a)(iv) are based on risk assessment, and the use of precautionary and preventive measures, when appropriate”.

Among public and governments, there is an increasing interest in the welfare of farmed fish. In addition, among farmers, there is growing awareness that good welfare equates to increased success of production activities. Indeed, from a practical point of view, production efficiency, quality and quantity are often coupled with good welfare. As a result, fish welfare has become a growing area of research. Animal welfare is not easy to be defined. It is generally referred to as the physical and mental state of the animal interacting with its environment and associated variations. Most animal welfare definitions can be categorised into ‘function-based’, ‘nature-based’ or ‘feeling-based’. The primary basis for the concept of ‘animal welfare’ is the belief that animals are sentient being capable to experience good or bad feelings or emotional states. Stress and stress-related responses should be considered as an adaptive condition of the organism that has the fundamental function of preserving the individual’s life. In addition, it is increasingly clear that individuality in stress reactions have to be included in the concept of animal welfare. Such differences often take the form of suites of traits, or stress coping styles (SCS), where traits like sympathetic reactivity, aggression and the tendency to follow and develop routines show positive relationships. In aquaculture, fish are exposed to a range of industry practices that may act as chronic stressors which potentially compromise welfare. The effects of a wide range of aquaculture practices on the stress physiology of fish are well documented. Some of these practices include frequent handling, transport, periods of food deprivation, deteriorating water quality, and sub-optimal stocking densities and social environments and these important topics are extensively all reviewed for the most important aquaculture species in Europe.

Thematic Area Production Systems

This document is based upon the review of the scientific literature and the overall information on the different production systems in aquaculture, both conventional and organic.

The different topics considered are:

1) Breeding; 2) Hatchery and Nursery; 3) Fito-Zoo massive culture; 4) Land based and Cage systems; 5) Recirculation Aquaculture systems (RAS); 6) Mussel and oyster culture; 7) Seaweed culture; 8) IMTA; 9) References.

The organic production principles embedded in the Commission Regulation (EC) 834/2007 are mainly based upon a holistic vision of the processes, as it is shown in the following steps of the regulation:

Recital 1: “Organic production is an overall system of farm management and food production that combines best environmental practices, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards and a production method in line with the preference of certain consumers for products produced using natural substances and processes. The organic production method thus plays a dual societal role, where it on the one hand provides for a specific market responding to a consumer demand for organic products, and on the other hand delivers public goods contributing to the protection of the environment and animal welfare, as well as to rural development”.

Recital 22: “It is important to maintain consumer confidence in organic products. Exceptions from the requirements applicable to organic production should therefore be strictly limited to cases where the application of exceptional rules is deemed to be justified”.

Specifically, within the Reg. (EC) 834/2007 it is worth to mention:

Article 11 General farm production rules

The entire agricultural holding shall be managed in compliance with the requirements applicable to organic production. However, in accordance with specific conditions to be laid down in accordance with the procedure referred to in Article 37(2), a holding may be split up into clearly separated units or aquaculture production sites which are not all managed under organic production. As regards animals, different species shall be involved. As regards aquaculture the same species may be involved, provided that there is adequate separation between the production sites. As regards plants,

different varieties that can be easily differentiated shall be involved. Where, in accordance with the second subparagraph, not all units of a holding are used for organic production, the operator shall keep the land, animals, and products used for, or produced by, the organic units separate from those used for, or produced by, the non-organic units and keep adequate records to show the separation.

Article 15 Production rules for aquaculture animals

In addition to the general farm production rules laid down in Article 11, the following rules shall apply to aquaculture animal production:

(a) with regard to the origin of the aquaculture animals:

- i. organic aquaculture shall be based on the rearing of young stock originating from organic brood-stock and organic holdings;
- ii. when young stock from organic brood-stock or holdings are not available, non-organically produced animals may be brought onto a holding under specific conditions;

(b) with regard to husbandry practices:

- ii. husbandry practices, including feeding, design of installations, stocking densities and water quality shall ensure that the developmental, physiological and behavioural needs of animals are met;
- iii. husbandry practices shall minimise negative environmental impact from the holding, including the escape of farmed stock;
- iv. organic animals shall be kept separate from other aquaculture animals;

(c) with regard to breeding:

- i. artificial induction of polyploidy, artificial hybridisation, cloning and production of monosex strains, except by hand sorting, shall not be used;
- ii. the appropriate strains shall be chosen;
- iii. species-specific conditions for brood-stock management, breeding and juvenile production shall be established;

(g) With regard to cleaning and disinfection, products for cleaning and disinfection in ponds, cages, buildings and installations, shall be used only if they have been authorised for use in organic production under Article 16.

Thematic area Environmental impact

The present regulations states that “Aquaculture and seaweed business operators shall by preference use renewable energy sources and re-cycle materials and shall draw up as part of the sustainable management plan a waste reduction schedule to be put in place at the commencement of operations. Where possible, the use of residual heat shall be limited to energy from renewable sources” (regulation 710/2009 Article 6b 5).

Energy use is also mentioned in regulation 710/2009 Article 25 h 3 which states that “Aeration is permitted to ensure animal welfare and health, under the condition that mechanical aerators are preferably powered by renewable energy sources”. Energy from renewable sources is defined as renewable non-fossil energy sources: wind, solar geothermal, wave, hydropower, landfill gas, sewage treatment plant and biogases (regulation 710/2009 article 2 k)

Regulation No. 834/2007 Article 15 1b.iii) states “husbandry practices shall minimise negative environmental impact from the holding, including the escape of farmed stock”

Regulation No. 889/2008 Article 25f.4. states “Containment systems shall be designed, located and operated to minimize the risk of escape incidents.”

Regulation No. 889/2008 Article 25f.5. states “If fish or crustaceans escape, appropriate action must be taken to reduce the impact on the local ecosystem, including recapture, where appropriate. Documentary evidence shall be maintained.”

Regulation No. 834/2007 Article 15 1b.iii) states “husbandry practices shall minimise negative environmental impact from the holding, including the escape of farmed stock”

EC regulation 889/2008, article 25g 3:

Specific rules for aquatic containment systems

3. Containment systems at sea shall:

(a) be located where water flow, depth and water-body exchange rates are adequate to minimize the impact on the seabed and the surrounding water body;

Council Regulation (EC) No 834/2007 Article 5(c): In addition to the overall principles set out in Article 4, organic farming shall be based on the following specific principles:

(c) the recycling of wastes and by-products of plant and animal origin as input in plant and livestock production;

Commission regulation (EC) No 710/2009 Article 6b 5: Aquaculture and seaweed business operators shall by preference use renewable energy sources and re-cycle materials and shall draw up as part of the sustainable management plan a waste reduction schedule to be put in place at the commencement of operations. Where possible, the use of residual heat shall be limited to energy from renewable sources.

Commission regulation (EC) No 710/2009 Article 6d 4: Ropes and other equipment used for growing seaweed shall be re-used or recycled where possible.

Ethics relating to the overall task of the project

Having a revision of EU regulation for organic aquaculture in mind, an important point of departure lies in the Lisbon Treaty (EC 2007) which came into force 2009 and states that *“In formulating and implementing the Union's agriculture, fisheries, transport, internal market, research and technological development and space policies, the Union and the Member States shall, since animals are sentient beings, pay full regard to the welfare requirements of animals (...)* (Part one/Principles, Title II, Article 13). It is also stated in the EU directive 2010/63EU on animals used for research that all vertebrate animals are regarded sentient. Further, specific regulations on aquaculture EC Reg. 834/2007 (production conditions), EC Reg. 889/2008 (slaughter) and EC Reg. 710/2009 (transport) take as their point of departure, more or less explicit, that fish are sentient. Hence it is not a question of whether or not, but rather how to take this capacity into concern given there are other concerns to relate to and balance. Of further relevance for revision of organic regulation is the Article 11 in the Lisbon Treaty: *Environmental protection requirements must be integrated into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development*, as well as Article 12: *Consumer protection requirements shall be taken into account in defining and implementing other Union policies and activities*. These articles not only express a clear intention to ensure the values of sustainability and consumer protection are implemented into all future policies and establish a solid value basis for revision of organic regulation but are also de facto mirrored in the views expressed by some stakeholders.

WP3 (Review of socio-economic issues)

The overall aim for WP3 is to collect and review available information on economic, market and consumer related issues, and regulatory and institutional frameworks related to organic aquaculture.

WP3 consists of three tasks:

Task 3.1. is concerned with consumer perceptions, sentiments and understanding of organic aquaculture. Relevant data was collected, both scientific and grey literature published after year 2000. The partners in WP3 were asked to comment on potential search strings for relevant literature developed by the person responsible for the literature review. The strings were adapted according to the comments and tested by a trained librarian, on the extensive database called ProQuest Dialog,

which includes 97 databases. Having the search terms tested in such thorough way, secured their effectiveness, which led to the final literature search. The final literature search was performed in Web of Science and led to a large amount of results. Additional searches were performed in Organic e-prints, Cordis and national institutional databases for available grey literature on the field of organic aquaculture and consumer perception. Non-English literature was searched by native speaking researchers, to ensure the inclusion of relevant publications that are not internationally accessible due to language. The articles were then evaluated according to their relevance to the topic and a preliminary literature review was written. 784 publications were included in the EndNote bibliography, which was uploaded on the share point so that all partners will have access to it. The bibliography is organised according to the four themes that were decided upon at the kick-off meeting: Production systems, Welfare, Environmental impact and Feed issues. The results from the literature review can be summarised in bullet points, which are also reported in D4.1:

- The image of aquaculture is transferred to the image of fish from organic aquaculture. Consumers that are positive about aquaculture are also positive about organic aquaculture and if they are negative, they remain negative.
- Consumers that are positive about organic production are also willing to pay for organic. This link is however stronger when consumers have high education, high income, high knowledge about organic and if they have young children.
- Additional issues that positively influence the acceptance and use of organic fish are the health benefits of such fish, the naturalness of the production, that the production is local or at least domestic and the food safety associated with such a production method.
- Very little knowledge exists about how consumers perceive types of feed used in aquaculture.
- Quality variations might be perceived by consumers when fish are produced under good welfare regimes. Most consumers are not concerned about fish welfare, while a small segment is.
- Very limited knowledge about consumers' perceptions of various production systems. Lack of knowledge about production systems may lead to shock from exposure to information about production details.
- When consumers realise that aquaculture protects wild stocks, they perceive aquaculture as something good for the environment. Level of knowledge about aquaculture can lead to either emotional or logical development of the image consumers have about aquaculture. Emotional development tends to lead to a negative image, while a logic driven development leads to a more positive image of aquaculture and its global impact to the environment.
- The concept of organic is not one common understanding among consumers. Biological, organic, ecological, green, sustainable and even fair trade labelling is closely related in the eyes of consumers. Distrust is influenced by knowledge about organic fish, perceived transparency of the controlling agents, tangibility of the provided information, perceived honesty of the carrier of the information and the source of information (e.g. Official/Government vs. Commercial/Industry).
- Increased familiarity with a label, perceived increased personal health benefits, societal benefits related to the environment, increased education levels, increased income, older age and additional interest in ecological issues lead consumers to increased willingness to pay for products that carry organic label.
- Our review revealed that there is a good knowledge base on the topics related to consumers and their perception of fish and aquaculture in general, organic food in general, organic aquaculture as a whole, fish welfare perception, environmental impact and sustainability of aquaculture, general label perception regarding environmental issues, specific perception of

eco/organic/welfare/sustainability labelling and opinions about certification schemes and the way they are controlled.

Results from the review of relevant literature led to conclusions that can be used as input for the adaptation of regulations regarding organic aquaculture. However, knowledge gaps were also identified in literature review. The most important knowledge gaps were the tangible information about specific production systems and feed used in each and the way consumers balance their food choices between moral and physical attributes of organic fish. These issues were covered by the design and performance of a consumer survey. The survey design was based on established scientific methodology and relevant parts of the regulatory framework (EC 834/2007, 710/2009). The draft questionnaire was circulated among the WP3 partners and the final questionnaire was adjusted according to the comments. The survey started with questions about terms and concepts consumers regarded relevant to the official EU definition of organic fish and how some of them can influence the quality of the fish (including feed, production system characteristics, etc.). Then the survey included questions about consumers' attitudes towards organic fish and their familiarity and use of relevant labels. Perceptions and attitudes (including naturalness, quality, health, sustainability, safety, etc.) about wild, conventional farmed and organic fish were also reported by consumers. Consumers also reported their knowledge about organic fish, their consumption behaviour and socio-demographic characteristics. After the consumer survey was designed, it was distributed to the four best international survey provider companies identified by the partner responsible for task 3.1.3 (Nofima). The companies were:

1. Haystack (ex Rogil) <http://www.haystack-international.com/haystack-worldwide>
2. Ipsos <http://www.ipsos.com/node/128>
3. Significant <http://www.gfk.com/Countries/Europe/Pages/default.aspx>
4. YouGov <https://today.yougov.com/opi/>

These companies were contacted and their offers for performing the survey were evaluated for price and quality. The best company, which performed the survey and delivered the resulting data to the researchers responsible for task 3.1.3 for analysis was Ipsos. The results from the survey were delivered in raw data format. The final sample consisted of 2007 participants from Germany, Italy, France and the UK (~500 participants from each country). Nofima analysed and interpreted the results using classical statistical methods such as analysis of variance to compare group means, post-hoc tests to define where differences are significant and chi square tests to compare data matrices related to socio-demographic characteristics.

The results from the literature review and preliminary findings from the consumer survey were presented in the first stakeholder meeting (D5.1). The results can be summarised as follows (reported in D4.1):

- The objective (actual) knowledge concerning organic fish was just above medium in this sample, with an average of about 57% correct answers given with an average certainty of 3 out of 5. On the contrary, self-reported subjective knowledge was on average at 2.5 on a 7-point scale. Most knowledge measures were higher in Italy and Germany followed by France and the UK.
- About a fifth of the sample has actively sought information about organic food, but very few sought information about organic fish or aquaculture. Similarly low numbers were reported for active membership and financial support of environmental organisations. Organic food consumption frequencies showed that the most commonly consumed foods were vegetables,

dairy, eggs, fruit, poultry and beverages respectively. While lower in the frequency list were red meat, fish/seafood and grains.

- More than half of the participants in all countries reported that the factors that fit the definition of organic fish the most are: 1) No use of toxic chemicals and 2) Natural living conditions. Lowest at the ranking order were the factors: farmed in cages at sea, minimize use of water, farmed in a pond on land, maximize utilization of nutrients and minimize escapes. Most participants considered organic to be an important issue and considered organic fish to have a good quality and to be safe to eat. Organic fish was also considered to be good for consumers' health, good for the environment and contain no additives, but organic fish is reported to be too expensive for consumers' budget.
- Being organic is not the most important factor defining fish quality in consumer's minds: To define fish quality in general, clean water, followed by fish welfare and feed issues such as balanced feed composition and feed naturally consumed in the wild were considered important. The factors organically produced, ethical slaughtering and wild caught fish were the lowest rated, however still above 5, which is above the 7-point scale's mid-point (i.e. 4).
- Most participants considered organic production to be an important issue and considered organic fish to have a good quality and to be safe to eat. Organic fish was also considered to be good for consumers' health, good for the environment and contain no additives, but organic fish is reported to be too expensive for consumers' budget.
- The respondents were asked which features are relevant in characterising farmed, wild and organic fish. The variables that organic fish was rated lower than farmed and wild fish were: good quality, healthy, animal friendly, environmental friendly, natural, tasty and safe. However, these differences were not large and are expected to be explained by lack of knowledge in the sample
- Consumers are not very active in searching for information about organic fish. The most trusted sources of information were reported to be the organic fish farmers and independent certifiers. Retailers and government were less trusted, with a dichotomy between Italy/Germany and France/UK. The first two countries trusted the governmental controls more than retailers, while the latter group was the opposite.

During the 1st stakeholder meeting in Istanbul 2014, feedback was given by the stakeholders on topics that are relevant and need to be analysed in depth (D5.2). This feedback was taken into account and task 3.1 is continued with further analysis of the findings. The results of this final analysis have been organised and prepared for the complete WP3 deliverable (D3.1). This final output was delivered in M18. A conclusion from the consumer literature review, survey and feedback from the stakeholders can be drawn: Consumers are unsure about the concept of organic fish farming due its overlap with several available concepts such as sustainable, biological, ecological, fair trade and environmental friendly. Consumers also show ambivalent impressions about the placement of organic fish between wild fish and farmed fish. This ambivalence originates from the naturalness of farming fish that can vary between species. Some species are naturally living in confined areas, while others travel long stretches. Some species live in fresh water, others in sea, while others in both, introducing several levels of complexity for consumers' understanding of details of production systems. Furthermore, consumers' knowledge about practical details of fish production is limited. Consumers in Europe are generally not aware of how fish is produced, which creates a fertile ground for negative reactions to information about production issues such as feed, welfare, production system types and their environmental impact. As shown in previous research, exposing a population with a low knowledge to details about improvements of production system leads to a negative reaction to the details of the production as such. It is therefore suggested that a well-prepared communication strategy needs to be established to ensure increase of consumer knowledge on the key issues related to fish production, including organic fish production. This

overall increase in knowledge will lead to a more fertile ground for interactive communication of production issues in the future too.

Furthermore, the consumers' perception of organic farmed fish is heavily influenced by their perception of fish farming in general and influences from agriculture. Aquaculture is by some consumers perceived as negative, "industrial" production, comparable to large agricultural units in Europe. Fish consumption in Europe is low in general but if it is increased as recommended, it could be done while protecting wild stocks due to the availability of fish from aquaculture. Some consumers may increase their fish consumption by eating conventionally farmed fish. The consumer segment with a preference for organic food production in general may increase their fish consumption in general, potentially buying more fish products that are organic. However, total health promoting fish consumption depends on the image of all fish products. Offering wild, farmed and organic fish to a market of diverse consumers with particular demands is a way to ensure that health policy targets are met regarding seafood consumption. Consumers that would buy organic meat will potentially buy organic fish more often if organic fish and its relevant certification schemes are well documented and communicated. However, the fish market in Europe needs to be supported as a whole as well, to avoid undesirable side effects from image transfer between fisheries, conventional aquaculture and organic aquaculture. In addition, price sensitivity has to be taken into account, as some consumers may reduce the purchased quantity of fish if the price of organic/eco-labelled products is too high. Therefore, well-designed and pretested communication campaigns can have a positive effect on seafood consumption in Europe and can be used to create awareness about organic aquaculture and build a positive and reliable image of certification schemes.

Carrying out a SWOT is part of WP3 (task 3.1.4.) and focuses on the review and determining of the benefit of organic production and certification to the consumer perception and global market of aquaculture products. The main source for the SWOT was a desk research completed with expert information to the extent necessary. The addition of expert information was very useful for the analysis, considering that the SWOT is limited to organic aquaculture and as such, not an abundance of scientific papers was available. (Dark) grey literature was added and additional interviews by phone were held. These additional interviews deepened the data collection with respect to mainly the internal analysis.

Some findings:

- Consumption of fish products is expected to increase strongly over the coming decade. Consumer demand cannot be met by capture fisheries alone. Aquaculture is required. However, aquaculture is not without its drawbacks. Organic aquaculture is giving in to many issues in conventional aquaculture.
- Although booming, aquaculture as a concept has been introduced relatively late into fisheries. Since 2009, it has to align with legislation EU 710/2009 which was welcomed, but not always enthusiastic. Some stakeholders were in favour of a more strict set of rules. In addition to these legal rules, private standards will become (more) important (e.g. from retailers).
- Organic aquaculture products will benefit from the increasing attention for sustainable food products (including organic) by both consumers and retailers.
- Cooperation and dissemination of knowledge throughout the whole chain is fragmented
- A high consumer end price is only acceptable if the surplus is kept as low as possible. In addition to this, it seems in order to develop a robust organic aquaculture sector where extra

costs should only be caused in the production phase and not by inefficiencies throughout the whole chain.

- Organic aquaculture next to ASC and MSC could be quite a challenge to communicate clearly to and with end consumers. It could be confusing to them if consumer knowledge is inadequate.

As a conclusion from the SWOT-analysis with respect to the first part of the subtask (what weaknesses does the European organic aquaculture sector solve), the analysis show that organic aquaculture contributes to a number of issues. First, organic aquaculture's contribution is based on its care for the environment. However, it also supports local economies, builds consumer trust and contributes to consumer choice, which are also important contributing points. The second part of the subtask asked which strong points might be even stronger, especially with respect to the challenges: effectively attracting consumers and strengthening the sector. High environmental standards, the regional focus and a certified, transparent production are among the EU organic aquaculture's main competitive factors and should be more effectively exploited to compete in the markets. At the same time, working more closely together will increase strength and innovativeness of the sector and open windows of opportunities. For instance with respect to technological shifts which will positively influence costs like the feed conversion ratio. Another possibility is the extension of the product variety with for example more convenience products. Or, as came became clear from the WP3 consumer survey, build a systematic long term communication strategy which could increase the consumers' knowledge level to a point of having the ability to evaluate and conclude about the risks and benefits of production systems related to organic aquaculture.

The aim of **task 3.2** of the OrAqua project is to improve our understanding of the economics of organic aquaculture production and the competitive position of organic aquaculture products in EU markets. Reviews of reports and scientific articles related to socio-economic issues in organic aquaculture have been conducted. Additional data was collected to perform the main analyses. The extensive network of the consortium partners was used to collect economic production data for specific production systems. The work in task 3.2. has proceeded as follows:

Step	Action	Result
Studying text of relevant regulations	Disentangling the text of regulations into relevant issues	List of issues mentioned in the regulations
Literature	Literature search for relations between the regulation	Relations between regulation and fields of impact
Impact matrix	Categorising the regulation issues into impacts categories	Matrix of regulation issues on one hand and impacts for production systems, output, operational costs and investments on the other hand
Model selection	Finding an adequate model for calculating the effects of the regulation on the cost price of organic aquaculture	Preliminary model selection
Review	Reviewing the selected model for scientific robustness	Definitive model selection
Data collection	Looking for available data	Database selection

Survey of field experts	Asking experts for supplementary information	Necessary qualitative and quantitative information, additional to literature and databases
Preliminary results	Filling the model with the available exogenous information from literature, databases and field experts	Preliminary model results
Stakeholders meeting in Istanbul	Interactive discussing of the preliminary results with experts visiting the stakeholders meeting in October 2015 in Istanbul	Improved model input
Definitive results on farm level	Improving the model by adding the information from the stakeholders meeting	Definitive model results of economic impacts of organic aquaculture on farm level
Consequences for consumer prices	Data collection and analyses	Consumer prices and margin in the chain
Competitive analyses	Review on previous projects	Competitiveness European organic aquaculture

The literature review that was conducted specifying for each source the information and results relevant for the socio-economic topics, revealed that a few studies are available for the technical/economic modelling with some interesting case studies but ample research is available on costs and benefits for organic aquaculture. Only a few studies report quantitative results particularly on the production costs and in particularly feed. These are of course the main issues when changing production to an organic system. More information is available on the qualitative aspects but the costs that will be involved for these issues will be very specific and related to the site, production system, fish species, and country. There is an urgent need of statistics within organic aquaculture production. Some elements related to aquaculture production are of particular relevance and deliverable 3.2 has covered the literature review on feed, welfare, production systems, environmental impact, certification, and chain.

Based on the literature analysis the focus on the effects of transition was directed to:

- farm size,
- labour required,
- density rate,
- daily growth,
- feed conversion rate,
- mortality rate,
- costs for health prevention/care/medicines,
- livestock costs,
- energy costs,
- costs of certification and investment in a sustainability plan

The necessary preliminary indices for volume and price changes were collected and indicated by expert interviews. A preliminary report and model was formulated based on the literature and interviews, and delivered to WP4 in M8. During the stakeholder meeting on 11-12 October, the indices and the preliminary results were discussed in workshops. During the meeting additional mini workshops were organized for the four main species: Salmon, rainbow trout, carp and sea

bass/sea bream. In these workshops, three to five stakeholders participated to share their expertise. The participants were fish farmers, feed providers, researchers and certification experts. In order to get a good quality of information the participants had received the preliminary results of the model in advance. The chairs of the workshops explained shortly the goal of the workshops, the main assumptions in the model and the results. Most of the time the basic assumptions and the technical results of organic fish farming were discussed. In this way, the economist received much information about organic fish farming in practice and its consequences for the management, the technical performances and the economic results.

Due to the density limits in the EU-regulation and a more cautious feed strategy, the production on farm level will decrease (under the assumption that the production capacity will not change). This is particularly the case for salmon and trout. The maximum density in organic carp, sea bass and sea bream production does not differ from the conventional production systems. The production costs per kg fish in organic production systems are substantially higher. The calculations show a higher cost price for salmon of 20-30%, for trout 25-40%, for sea bass and sea bream of 20-30% and for carp 10-20%. The main reasons are:

- Due to the lower production, the fixed costs have to be spread over less kg marketed product.
 - The price for feed is 25 to 30% higher
 - Organic raised juveniles are more expensive
 - Relatively more labour is required for e.g. health care (prevention, parasite control)
 - Producing and selling a 'quality product' needs special attention, marketing skills and risks. More highly qualified labour is required.
 - Due to the lower production some size-related labour advantages will decrease
- No big differences are expected for:
 - mortality
 - FCR: Since organic and conventional feed are equivalent in the matter of energy content the feed conversion rate can be equal.
- The higher costs compel a higher selling price of the organic fish of 15-30% in comparison to conventional. For other organic products, this higher price is indeed a fact. We still have to find out if this higher price is realistic in aquaculture.
- Most of the data are from the STEFC-database. In some cases, the data seem incomplete. This may have influence on the results, in particular to the absolute level of the difference of the cost prices of organic and conventional fish. The relative influence is smaller. This problem is still a point of interest.
- The basic assumptions regarding the price and volume mutations, changes are mainly based on experiences and knowledge of field experts. These assumptions have been reviewed after input at the stakeholder meeting in Istanbul.

In December, new data has become available with an update of the STEFC database with 2013 socio-economic data. The socio-economic model is estimated with this new data. Information for salmon, Trout, sea bass/ sea bream and carp is provided. Available data in the database are:

- Farm outputs (turnover, subsidies, other income)
- Farm inputs (raw material costs, other operational costs, wages, repair and maintenance, Depreciation of capital, financial costs, energy costs, etc.)
- Farm income (total income)
- Employees (Total, gender split)
- Volumes (total sales volume, raw material volume)
- Balance sheet (total value of assets, Net investments, debt)
- Enterprise by size

Some important combinations of species and production regions are missing, such as carp production in Poland and Czech Republic and salmon production in Norway. When possible, other data sources are used for these cases. The Fiskeridirektoratet Norge provides data for the Norwegian salmon production; Turkovski and Lirski published the profitability of the Polish carp sector and the Landesfishereiverband Brandenburg provides a model for the carp production in Germany. These data are manually incorporated in the STECF database.

The results from the model are organised in three sections, and the main results are presented below.

The economic consequences of organic aquaculture for the cost price on farm level for five species

Salmon:

In Norway, the cost price of organic salmon is about 0.96 euro/kg (40%) higher. In Ireland, the extra costs are calculated on 1.74 euro/kg (30%) higher; in the United Kingdom this difference turn out to be about 0.71 euro/kg (25%). The reasons for these differences are the different levels of costs for conventional fish, and differences in the cost structure. The higher production costs are for 35% caused by the feed costs, for 40% by the costs for new production capacity, and for 13% by the costs for smolt and for 12% by other costs.

Trout:

In Denmark, the cost price of organic trout is 0.41 euro/kg (15%) higher compared to the conventional farmed trout. In France the extra costs are calculated on 0.58 euro/kg (15%) higher; in Italy this turns out to be about 0.35 euro/kg (20%). The reasons for these differences are different levels of costs for conventional fish, and differences in the cost structure. The higher production costs are for 65% caused by the feed costs, for 20% by the costs for labour costs and for 15% by the other costs.

Sea bass and sea bream:

In France, the cost price of organic sea bass and sea bream is about 1.83 euro/100 kg (30%) higher. In Italy the extra costs are calculated on 2.46 euro/kg (30%) higher; in Spain this difference turns out to be about 2.29 euro/kg (40%). The reasons for these differences between production locations are different levels of costs for conventional fish, and differences in the cost structure. The higher production costs are for 50% caused by the feed costs, for 35% by the costs for livestock and for 15% by the other costs.

Carp:

In Romania the cost price of organic carp is 0.83 euro/kg (80%) higher. In Poland the extra costs are calculated on 0.89euro/kg (45%) higher; in Germany this difference turns out to be about 0.67 euro/kg (30%). The reasons for these differences are different levels of costs for conventional fish, and differences in the cost structure. The higher production costs are for 65% caused by the feed costs, for 20% by the costs for juvenile purchases and for 15% by the other costs.

The costs along the value chain from the farmer to the supermarkets

The farmers' price for **organic salmon** is about 30% higher than the conventional salmon. The consumer prices for organic salmon products are approximately 50% higher. In absolute terms, the margins for organic salmon in the value chain are much higher than for conventional salmon. Organic salmon is a so-called service product for conventional processors: it is sold parallel to conventional products. Organic salmon products are sold at a very high price, as a luxury product. Margins therefore are higher at all stages of the supply chain. The farmers' price for **organic trout** is about 30% higher than the conventional trout.

The consumer prices for organic trout products are approximately 50% higher and 100% for whole trout; however, whole organic trout is only sold at limited number of retailers, where conventional whole trout is also sold on a higher price. For these retailers the sales price for organic whole trout is about 50-60% higher than for conventional. **For Sea bass and sea bream**, the farmers' is about 35% higher than the conventional fish. The consumer prices for organic sea bass/sea bream products and whole fish are estimated to be 50% higher than their conventional opposites; however, this is an assumption, based on the other fish types, as there were no sales observed. For **organic carp**, the farmers' price is 30% higher than the conventional fish. The consumer prices for organic carp products and whole fish are estimated to be 50% higher than their conventional products and whole fish; however, this is an assumption, based on the other fish types, as there were no sales observed. Processing, trade and retail margins are very low, compared to other fish types. This is probably related to the typical point of sales: in Eastern European countries.

The competitiveness of European organic aquaculture

An analysis of the competitiveness of European organic aquaculture was also conducted, based on Porter's theoretical framework. The chances for large-scale **new entries** for organic aquaculture management are very low. Organic aquaculture entails large challenges to deal with public and private standards, issues involved in feed and production, as well to market these products against premium prices. These are hurdles that make the threat of new entrants unlikely, but they make development of organic aquaculture more an evolutionary practice. There is, however a medium pressure from **buyers**. There is a high pressure from **substitution**. For organic, marine products might be seen as an important substitute product as wild catch fish might be considered to be organic by end consumers. Consumers are often confused that wild fish is not organic and it takes a large amount of effort to educate consumers on this aspect to change their perception. Whereas for ASC and MSC this difference is much clearer what might benefit both labels, whereas for organic the confusion remains and put these in a disadvantage. **Supplier power** represents a medium pressure on European organic aquaculture. Organic aquaculture producers have low power for entering the shelves of retail chains. Hence, it is for producers of organic aquaculture to seek for retailers who want to distinguish themselves by offering organic aquaculture products. Finally, **competitive rivalry** represents high pressure. Several countries have formulated national standards and strategies for up-scaling of organic aquaculture, for example, Thailand (Ruangpan, 2007), which reflects government commitment and support to the growth of the sector (Prein et al., 2012). With respect to aquaculture, a large share of products are imported in the EU (EUMOFA, 2014). Hence, aquaculture products have much more competition at a global level.

Task 3.3. is about the institutional frameworks for organic aquaculture. There is little scientific literature and few analyses about the social science perspectives of institutional frameworks for organic aquaculture. It has thus been necessary to search more indirectly in the scientific literature where regulations are discussed more peripherally as a part of other scientific approaches, such as ecology, biology, technology, economic etc. This is supplemented by governmental documents in Norway and EU countries, a few recent reports and some popular science articles concerning the management regime. The project partners have been contacted for information in different countries. New regulations have been introduced after the start of the project, and more changes are likely to come in the near future. It has therefore been, and there will continue to be a need to make adjustments during the project period to ensure that the final report in June 2015 (M18) is updated with regard to the present situation.

Organic fish farming has been regulated at EU level since 2007, and was introduced and established as a stepwise based regulation. The regulation of organic production is an ongoing process that has been supplemented with increasingly detailed rules for production, certification and control.

Commission Regulation (EC) No 710/2009 (EU, 2009) provides detailed production rules for the different organic aquaculture species. The Regulation contains transition rules to give existing organic aquaculture operators certified under private and national programmes time to adjust production to the new rules. Several amendments have also been adopted prolonging several of the transition rules. Originally, the transition period for when aquaculture farms producing under nationally accepted organic rules before 1 January 2009 had to operate under the Regulation (EU) No 834/2007 was July 1st, 2013. With the amendment in Regulation No 1030/2013 (EU, 2013a) the period was prolonged until January 2015. Due to practical difficulties to meet the standard also the opportunity and conditions for using non organic aquaculture juveniles has been extended, by the amendment Regulation No 1364/2013 (EU, 2013b) and the permission to use feed from non-organic fish certified as sustainable was extending by Regulation No 1358/2014 (EU, 2014a).

The regulations cover a great diversity regarding geography, species and production concept. The EU's federalism privileges standard-based regulation and private certification has emerged while the governance has shifted away from state regulation. Altogether, it is a very complex and fragmented management regime, which can be hard to deal with, both for producers, authorities and consumers. The European Commission presented a legislative proposal for a new Organic Regulation and a European Organic Action plan on the 24th of March 2014, and this is said to address some of these problems. OrAqua has revealed critical development constraints for the growth of organic aquaculture in Europe. The most severe of them are:

- Bureaucratic production rules and control provisions is said to be one of the most significant problems with the existing regulation.
- The complexity of (national) bureaucracy is claimed to slow down the transition to certified production.
- The vague provisions give room for different interpretations. Concerns are expressed that this discretion of the national competent authorities might result in different interpretation and different practise. This can cause unequal frameworks and unfair competition, as different approaches are applied in different states (IFOAM 2012).
- There is great variation between the countries with respect to standards and certification. These standards often vary significantly from place to place, certifier to certifier, and from

species to species. Companies operating in multiple markets must in some cases be certified in several countries, and some have trouble with the conflicting certifications.

- Organic aquaculture production may be challenged by stricter regulation for conventional production, which may wipe out some of the differences between organic and conventional production.
- Lack of national policy support by national programs for organic aquaculture production.
- There is a lack of relevant statistic and updated information regarding organic aquaculture, and it becomes difficult to have a good understanding of the past and current status.
- Regulation without reference to practical and economic realities. It can be hard for producers to decide whether to convert to or continue to produce organically. The predictability is perceived as too low.

A second subtask in 3.3. is to review how the regime for organic aquaculture is implemented and practiced in major producing countries in Europe. In collaboration with the partners in OrAqua, four case studies have been selected: France - Rainbow trout, Greece - Sea bream/Sea bass, Norway - Atlantic Salmon, Czech Republic - Common carp. There is no available information in English about how the four countries have implemented the regulation on organic aquaculture. It has therefore not possible to conduct a review of the literature. Data has been scarce, and the presentation is based on information from partners and platform participants in the OrAqua project from the case countries.

In **Czech Republic**, there is no certified organic production of carp, although the carp production here is generally perceived as organic because the carp is farmed with no or very little feeding. There is no national regulation on organic aquaculture. Any future organic production will follow the Commission Regulation No.710/2009, and no incorporation into Czech regulations will be necessary. There are no stimulation systems for increased organic aquaculture production in the Czech Republic. There are four control bodies in the Czech Republic accepted as certifiers of organic products by the European Commission, as provided for in Article 35(B) of Council Regulation (EC) No 834/2007 (DGAgri, 2013), which would be able to undertake the required control and certification tasks. However, the current, non-certified, Czech carp pond farming practice does not comply with the EU regulation on organic aquaculture because of use of hormones and conventional feed.

Greece has some production of organic sea bass and sea bream, about 1.000 tons. This amounts to less than 1% of the total Greek sea bass and sea bream production. At present three Greek farms are certified and produce organic sea bass and sea bream (Zubiaurre, 2013), one is certified with the EU scheme and two with Naturland. There is no national organic label or regulation on organic aquaculture in Greece. Following EC Reg 710/2009 the Greek government adopted the Ministerial Decision for organic aquaculture MD 95767/ 31-8-2010 “Principles of Organic Production, Reg (EC) arith.710/2009” with an interpretation of the EC Regulation. The use of the stimulation for increased organic production is reported to be marginal. This is explained by the small market for organic aquaculture. The producers therefore see no reason for switching to organic. It is also noted that “a significant portion” of organic production is sold as conventional because there is not always a market for the organic fish. There are 15 control bodies in Greece accepted as certifiers of organic products by the European Commission, as provided for in Article 35(B) of Council Regulation (EC) No 834/2007 (DGAgri, 2013). Two of them, the Bio Hellas (EU code Gr-Bio-03) and TUV Austria Hellas (EU code Gr-Bio-15), are currently providing certification of the three sea bass and sea beam

producers. Complicated bureaucracy is pointed out as one of the barriers to further development but the lack of market demand is considered equally critical.

France is the major organic producer of trout and produces 60% of the organic trout production in Europe, but still only 2,7 % of the total French production is organic. The national French certification for organic production is Agriculture Biologique (AB). In addition, the European “feuille”, the leaf, is used. The AB is a public standard, implemented in 2000. AB has developed criteria for all major species, including trout. The governmental regulation, besides setting criteria for organic aquaculture, also sets an annual limitation of the total production volume per certified species. There are 8 control bodies in France that are accepted as certifiers of organic products by the European Commission (DGAgri, 2013). The economic support provided for stimulating organic production in the European Union European Fisheries Fund (EFF) (2006) has been used in France on the same scheme as in agriculture to help the sites in conversion to organic aquaculture. But only a few could benefit of this system since France took quite a long time to define the procedures. The new European Maritime and Fisheries Fund (EMFF) (2014) is not yet operational in France (as of January 2015). Since January 1st 2015, the AB is equivalent to the EU specifications, in line with the Regulation (EU) No 1030/2013 of October 2013, which extended the opportunity of national authorities to authorize those aquaculture production units, which were established and produced under nationally accepted organic rules before 1 January 2009 to keep their organic status under specified conditions. The "AB" is now in full correspondence with the EU specifications.

Norway is the biggest salmon producer in Europe, but only 0.07% of the Norwegian production is organic. The 8 060 tons organic salmon however amount to 40% of the European production. There is one inspection and certification body for organic aquaculture in Norway, Debio (Debio, 2013; DGAgri, 2013; FOR2009-02-02, 2009). The Debio standard was developed in cooperation with the Swedish inspection and certification body, KRAV, in 2001. The standards for Debio and KRAV are similar, and there is mutual recognition between the two standards. Hence, the Norwegian organic salmon farms are certified by Debio. There is no national organic label or regulation on organic aquaculture in Norway. Awaiting the entering into force of the EU Regulations EC No. 834/2007 and EC No. 710/2009, the Norwegian government adopted in 2009 a regulation on recognition of the Debio standards or equivalent standards for certification of organic aquaculture production (FOR2009-02-02, 2009). Following the Regulation (EU) No 1030/2013 of October 2013, which extended the opportunity of national authorities to authorize production under nationally accepted organic until January 1st, 2015, the Norwegian government started preparing a national Regulation on organic aquaculture. The Norwegian regulations are at present (April 2015) subject to public consultation. It is identical with the EU Regulation, except some national adjustments regarding control provisions and import of organic aquaculture products to be sold in Norway. Decision and supervisory authority will be delegated to Debio ("Utkast til forskrift om økologisk akvakulturproduksjon og merking av økologiske akvakulturprodukter (Draft proposal for regulations of organic aquaculture production and labelling of organic aquaculture products) ", 2015). There is no economic support for organic production or compensation for converting to organic production in Norway. Neither is there any public supervisory body directed at organic production, besides the supervision provided by Debio.

WP4 (Integration and internal communication of results)

The overall aim with WP4 is to analyse and integrate the outputs from the reviews and assessments of the expert working groups of WP2 (production related issues) and WP3 (Social issues) on up-to-date scientific knowledge and research on current organic aquaculture productions. Further feedback from multi-stakeholders experience on key issues of organic aquaculture (WP1 and WP5) will be included. Using appropriate communication tools, these latest scientific results combined

with stakeholder experiences will be communicated in an easily conceivable format to stakeholders and interest groups within organic aquaculture.

WP4 has analysed and synthesized the preliminary information provided by WP2 and WP3 and presented this in review format at the 1st stakeholder event in Istanbul 11th – 12th October 2014. A presentation entitled: “Production and Socio-economic Issues related to Organic Aquaculture” was given with close attention to the current regulation on organic aquaculture. Based on the analyses of the preliminary state-of-the-art information and highly important also addressing feedback of stakeholders perceptions and experiences the subsequent deliverable D4.1 (due M11) provided a review of key issues related to the current regulation on organic aquaculture to be considered to underpin future growth of the European aquaculture sector.

In consideration of fish health, product quality and low environmental impact a general concern was expressed by stakeholders about the intended sourcing of feed ingredients for feed for carnivorous fish (EU Reg. 710/2009 art. 25k). To achieve nutrient balanced diets use of fish meal from whole fish caught in sustainable fisheries should be prioritized as well as utilization of trimmings from these fisheries and trimmings from conventional aquaculture. However, concern was raised about trimmings not being a well-defined product showing great variations in composition and quality (amino acids and phosphorous). Focus should also be on improving the diversity of the raw material basket, i.e. increase the adequate options of ingredients to better match amino acid profiles of feed for organic aquaculture. There was a need of harmonizing limits of pigmentation of organic fish as well as consideration of the use of fish meal and phospholipids in shrimp diets. The exchange of fish oil high in omega-3 fatty acids by alternative sources should be adjusted in accordance to development of vegetable or other sources producing these healthy omega-3 fatty acids in favour of keeping the good human health issue of eating seafood.

Sourcing of organic juveniles is a crucial issue. Though organic trout ova was already available the request of 100 % organic juveniles from 1st January 2016 was assessed not realistic in particular for marine species like sole, turbot, sea bream and sea bass due to currently no availability of organic live feed for fish larvae. Specific organic rules are needed for managing the life cycle stage between the hatching and the weaning of juveniles for specific species in fresh water, but particularly marine species. Further, the current regulation is not distinguishing between organic and non-organic hatcheries incl. phyto- and zooplankton and larval rearing systems. An option might be to start organic rules from fry stage weaned to dry feed. Due to limited possibilities for composition/limited availability of organic feed ingredients concern was expressed about the quality of fry dry feed in terms of providing essential nutrients.

Recirculation Aquaculture Systems (RAS) and environmental interactions are closely related. RAS produces with minimal environmental impact; i.e. low water usage, prevention of escapes and ingress of pathogens, biosecurity, recycling of water and collection of waste (P is globally limited) - possibly valorized and similar energy use in most situations versus flow through. The main reason for RAS systems only being acceptable for organic juvenile production seems to be more based on consumer perceptions of RAS as a “high-tech-non-natural” system than on scientific information. From producer’s point of view, the hatchery should be disconnected from the on-growing phase as for several species it is not economically realistic to produce juveniles in open systems. However, there seems to be a huge discrepancy between the production methods accepted for organic vegetable production compared to animal production and more specifically aquaculture productions. F. ex. very intensive organic tomato productions in greenhouses are accepted, but not fish in RAS.

Though not the main factor of fish welfare, stocking density should be considered in combination with other parameters of water quality, environmental conditions and husbandry practices, and maybe behaviour of the fish in the wild. Data on optimal stocking densities are conflicting. Although farmers need simple parameters to apply. More studies are needed that link density with water quality and a multitude of operational behavioural, physiological and morphological welfare indicators.

Fish welfare is related to a range of parameters, e.g. stocking density, nutrient-rich feed, substrates, light regimes, and being species specific, including conditions during transportation. The regulation should cover group of species, as they can be produced in different ways. Like stocking density metrics there is need of measurable welfare parameters/indicators.

In relation to health and veterinary treatments there seems to be a conflict between the current and future regulation of VMPs (all kind of Veterinary Medicine Products) and the organic regulation. The substances of preference in EU Reg. 710/2009 art. 25t a/b/c should be considered as feed raw material or additives. Further, due to a limited market it was suggested that aquatic animals needed a more adequate procedure of authorization of relevant substances according to the new regulation of VMPs. It was also stressed that anaesthetic treatment should not be included in the limitations of allopathic treatments.

Escapes should be prevented. Species-specific distinctions might be made between escapes of fish and escapes of viable gametes. Escapes might be prevented by robust netting materials to resist tearing or biting by fish and curtain-like egg collectors might be used to mitigate against egg escapee in cages with potential spawners (Atlantic cod and gilthead seabream).

At slaughter, the most humane stunning methods are assessed to be percussive and electric stunning followed by killing with gill cut. However, alternative stunning methods exist, but await further investigations.

Though the organic principles encourage use of renewable energy the regulations give no rules for release of CO₂ (Carbon footprint) and global warming potential (GWP). Life Cycle Analyses indicated, that using organic crop products and fish oil and meal from by-products in feeds for organic fish production may compromise environmental impact/carbon foot print. Obviously there is no identified criteria and reference points to characterise an environmental sustainable food production.

In line with the overall organic principles, actions should be taken to recycle waste of the production. However, a gap of knowledge and technology for recycling of nutrients from aquaculture exists and hence investigations of solutions for collection, de-watering and re-use of waste from aquaculture production are needed.

Off-shore activities are closely related to environmental impact on the Sea bottom and the water body. However, limited information on the environmental impact and interactions in relation to cage farming and the sea bottom is available. Further, there is a need of investigations of the ecological impact of cage farming and foraging wild fish attracting devices.

The consumer's perception of what is ECO, organic, fair-trade and sustainable is vague due to lack of knowledge and linguistic confusion among languages in EU. Consumers are confused about what is organic, and actually perceive wild fish as more organic/natural than farmed fish. Hence, an efficient communication strategy is needed.

The image of the EU leaf logo is low in terms of awareness and use because the label is too new. Further, the EU label implies the lowest requirements for organic certification in EU. Therefore, it is by nature the least powerful in terms of organic farming practices. However, a cultural effect should as well be taken into account when considering the EU logo as national labels carry an image of local control, which may be important for a developing organic aquaculture sector. However, transparency, proactive communication and the provision of key information that make sense to consumers may improve the efficiency of the EU leaf logo and the purchase of organic aquaculture products.

A too complex and fragmented management regime seems to be the most important issue of the institutional frameworks, which is aiming at harmonizing the production rules for organic aquaculture in EU. However, the uncertainty of the rules and on exception deadlines creates a lack of trust and investments. Further, the rules are not based on sufficient scientific and practical knowledge. Support policies are needed for organic aquaculture to reach 'critical mass'.

A visible and focused information strategy to get consumers familiar with aquaculture (conventional versus organic) is urgently needed. Hence, it should be clearly communicated what is organic aquaculture. The revision of the regulation should provide more homogeneous and species specific rules based on scientific and practical knowledge and experience.

The ethical analysis and evaluation revealed a range of potential conflicting interests and needs related to the current framework for organic aquaculture.

The classical dilemma in organic standard setting is visible also in Organic Aquaculture; i.e. increase differences to conventional by stricter standards, taking the risk of losing farmers/producers. Or keep differences at a lower level, closer to conventional, in order to keep, or increase, the number of certified producers, but at the risk of losing consumers who dislike the 'weak' standards. The critical point is to identify the break even with regard to the levels of the three parameters: 1) Standards, 2) Engaged producers and 3) Consumer trust.

As given above the analysis and reporting was structured to reflect the key issues of the current regulation on organic aquaculture, which can be summarized as follows:

Nutrition

- Sourcing of feed ingredients for organic aquaculture need to be re-considered and supported by experimental data to secure compliance with the organic principles of fish welfare and environmental sustainability.
- At least until more knowledge is available fish meal and fish oil derived from industrial fish caught in sustainable fisheries, might be allowed as ingredients in feed for organic carnivorous fish. This includes feed for fry and brood-stock, as well as for on-growing fish, until sufficient alternative sources of protein and oil are available.
- The use of fish meal and phospholipids in shrimp diets need to be re-considered.
- The use of other alternative feed ingredients providing high content of essential amino acids and lipids, where possible produced organically, might be used in priority to purified or free amino acids as feed supplements/additives.
- If not available from organic procedures, essential amino acids and lipids obtained by fermentation or other similar procedures might be considered.
- Studies have indicated that not only the overall dietary amino acid profile is important for efficient utilization of amino acids, but also the timing by which amino acids from different protein sources appear in the blood stream after a meal. A significantly higher amount of

indigestible carbohydrates have been measured in a diet based on vegetables than in a fish meal based diet, which suggested that the uptake of amino acids was affected by dietary carbohydrates. This issue also needs attention

- Procedures in compliance with organic rules for removal of anti-nutrients in plant sources need to be addressed
- Development of relevant organic plant sources to optimize the amino acid profile by mixing the protein sources and hence produce an optimum balanced diet for organic fish need to be considered.
- Important to keep focus on human health related to eating (organic) aquaculture products, including high content of omega-3 fatty acids (HUFAs) currently sourced from fish oil.
- Adjust regulation on request of exchanging fish oil by vegetable oils in accordance to development of vegetable or other sources producing omega-3 fatty acids (HUFAs)
- Priority research in alternative sources of Omega-3 fatty acids (HUFAs)
- Chemically well-defined analogic substances of minerals and vitamins may be considered for use if the natural substances are unavailable.

Organic juveniles:

- Except for already available organic trout ova it seems difficult to fulfil the request of 100 % organic juveniles from 1st January 2016 in particular for marine species like sole, turbot, sea bream and sea bass due to currently no availability of organic live feed for larvae
- Specific organic rules are needed for managing the life cycle stage between the hatching and the weaning of juveniles for specific species in fresh water, but particularly marine species
- The current regulation does not distinguish between organic and non-organic hatcheries incl. phyto- and zooplankton and larval rearing systems
- An option might be to start organic rules from fry stage weaned to dry feed
- Due to limited possibilities for composition/limited availability of organic feed ingredients concern is raised

Recirculation Aquaculture Systems (RAS) – Environmental interactions:

- RAS produces with minimal environmental impact: low water usage, prevention of escapes and ingress of pathogens, biosecurity, recycling of water and collection of waste (P is globally limited)
- Similar energy use in most situations versus flow through
- The main reason for RAS systems only being acceptable for organic juvenile production seems to be more based on consumer perceptions of RAS as a “high-tech-non-natural” system than on scientific information
- From producer’s point of view, the hatchery should be disconnected from the on-growing phase as for several species it is not economically realistic to produce juveniles in open systems
- There seems to be a huge discrepancy between the production methods accepted for organic vegetable production compared to animal production and more specifically aquaculture productions. F. ex. very intensive organic tomato productions in greenhouses are accepted, but not fish in RAS
- Need of knowledge on fish welfare versus RAS
- Further knowledge is needed about RAS and IMTA and the potential use of the technologies in organic aquaculture.

Welfare:

- Data on optimal stocking densities are conflicting. More studies are needed that link density with water quality and a multitude of operational behavioural, physiological and morphological welfare indicators
- The potential benefits of providing fish with access to nature-like substrates are species specific. More data are needed on type of substrates for specific species. Current knowledge suggests e.g. salmonids and maybe other species may not have a preference for substrate per se, but a preference for shelter, e.g. overhead, floating or benthic
- More knowledge is needed on the significance of light regimes requirements on the welfare and performance in organic aquaculture.

Health – Veterinary treatments – Biosecurity:

- Anaesthetic treatment should not be included in allopathic treatment limitation
- There is a conflict between the VMPs (all kind of Veterinary Medicine Products) current and future regulation and the organic regulation:
 - The substances of preference (article 25t a-b-c) should be considered as feed raw material or additives
 - Due to a limited market aquatic animals should have a more adequate/easier procedure of authorization of relevant substances according to the new regulation VMPs
- Reconsider the setting of with-drawl period according to the VMP regulation, i.e. if a with-drawl period is not defined for a species or a product you can multiply by 1.5 the with-drawl period for a similar product registered for another species
- Herbal medicine should be further investigated as it may play a significant role as immunostimulant and as treatment tool in future organic aquaculture.

Transport:

- Excessive changes in water temperature and pH during transportation must be avoided
- Smolt densities of up to 70 kg/m³ by road transport for up to 90 minutes did not compromise fish welfare
- Open-hold well boat transport, densities of up to 150 kg/m³ for more than 10 hours had no significant effect upon salmon welfare
- Max. density with transportation of fry might be set to 10 kg/m³
- The loading phase appears to be more detrimental to welfare than the transport phase and well boat transports seemed to have an important recovery function
- The effects of isoeugenol on large scale transport of smolts need further investigation
- The potential welfare costs/benefits of large scale live chilling during transport need to be investigated in greater detail for adult fish.

Killing – Slaughter:

- When properly done the most humane stunning methods is percussive and electric stunning. The methods should be followed by killing with gill cut
- Throughout storage prior to slaughter water quality should be monitored and continuously adjusted accordingly
- Use properly pump equipment with care and managed by trained staff
- Personnel should be regularly (annually) trained regarding fish welfare and equipment
- There are alternative stunning methods that are too poorly investigated to evaluate them regarding humane slaughter (e.g. CO₂, alternative anaesthetics)
- The use of electric stunning is considered as humane, but today the method is complicated and not user friendly and not easy for commercial application

- Waiting cages should be avoided, but so far, there are few realistic alternatives on the market.
- There are few documentations on water quality in waiting cages

Escapee:

- Species-specific distinctions might be made between escapes of fish and escapes of viable gametes
- Efforts should be put on prevention of escapees, i.e. putting requirements for the physical design of the installation of net cages, i.e. calculation and design, operating and maintenance requirements
- Specifications should be put on robust netting materials to resist tearing or biting
- Curtain-like egg collectors might be used to mitigate against egg escapee in cages with potential spawners (Atlantic cod and gilthead seabream). The commercial efficacy needs to be tested.

Energy consumption – CO₂ – Life Cycle Analysis:

- Need of defining criteria and reference points for an environmental sustainable food production
- Using organic crop products and fish oil and meal from by-products in feeds for organic fish production may compromise environmental impact/carbon foot print.

Recycling and waste:

- Need of knowledge and technology for recycling of nutrients from aquaculture
- Need of investigations of solutions for collection, de-watering and re-use of waste from aquaculture production.

Sea bottom:

- Environmental impact and interactions in relation to cage farming and the sea bottom needs consideration
- Ecological impact of cage farming and wild fish attracting device needs consideration.

Consumer's perception:

- The consumer's perception of what is ECO, organic, fair-trade and sustainable is vague due to lack of knowledge and linguistic confusion among languages in EU
- Consumers are confused about what is organic, and actually perceive wild fish as more organic/natural than farmed fish
- An efficient communication strategy is urgently needed
- The image of the EU leaf logo is low in terms of awareness and implies the lowest requirements for organic certification in EU – and therefore the least powerful
- A cultural effect should be taken into account as national labels carry an image of local control, which may be important for developing the organic aquaculture sector
- Transparency, proactive communication and the provision of key information that make sense to consumers may improve the efficiency of the EU leaf logo and the purchase of organic aquaculture products. It should be clearly communicated what is organic aquaculture.

Institutional frameworks:

- Too complex and fragmented management regime seems to be the most important issue of the institutional frameworks, which is aiming at harmonizing the production rules for organic aquaculture in EU
- Uncertainty of the rules and on exception deadlines creates a lack of trust and investments
- The rules are not based on sufficient scientific and practical knowledge
- Support policies are needed for organic aquaculture to reach 'critical mass'.

Ethics:

- The classical dilemma in organic standard setting is visible also in Organic Aquaculture; i.e. increase differences to conventional by stricter standards, taking the risk of losing farmers/producers, or keep differences at a lower level, not necessarily minimum, but closer to conventional, in order to keep, or increase, the number of certified producers, but at the risk of losing consumers who dislike the 'weak' standards? The critical point is to identify the break even with regard to the levels of the three parameters: 1) Standards, 2) Engaged producers and 3) Consumer trust, which includes:
 - How to gain consumer trust in organic aquaculture if the differences to conventional systems are low? What to inform consumers about if there are few differences?
 - How ensure increase in organic aquaculture if large differences to conventional leads to few producers being interested?
 - On the other hand, how to keep or create an interest among those organic producers who strive for a substantial difference and contribution?
- Fish welfare need to be defined in relation to each species, and welfare indicators are needed
- Stocking density includes several interconnected rearing parameters (water quality), which addresses welfare as well as other ethical issues
- Impact of stocking density on fish welfare is difficult to measure, and opens for a range of ethical considerations
- What is the definition of 'unnecessary suffering' as related to rearing systems, consumer perceptions and regulations (Organic, EU Slaughter directive as well as Treaty of Lisbon)
- Stunning followed by slaughter can be performed without causing (much) stress and pain, but legislation still allows methods that do (CO₂)
- In particular, regarding farming of species fed on animal protein: Is this the best possible use of global resources? Are arguments in favour of feeding cattle soy proteins that humans could eat instead and feeding carnivorous fish fishmeal convincing? If yes, are they so strong that it also justifies the suffering and stress we cause individual animals? Is there a morally/ethic relevant difference between cows and fish? Are fish less worthy of ethical consideration than other animals? If not, what is the alternative? What is the ideal Organic system? Cattle eating grass we cannot eat, monogastric animals (pigs) eating our waste and fish fed on alternative protein sources? If so, what is the role of organic regulations in promoting such a shift?

A main aim for the revision is to strengthen and harmonize the rules of production and to raise confidence of the consumers to organic production.

However, EU covers an extensive geographic area, which might impose climatic related challenges for organic production systems in rural areas to fulfil the organic principles.

Another important challenge is that the current regulation is not sufficient specific and hence allowing different interpretations in different countries, i.e. different conditions of control and anti-competitiveness between the countries.

WP5 (Facilitation of stakeholder events)

The overall aim with WP5 is to facilitate three events to involve and engage relevant stakeholders, recruited in the multi-stakeholder platform, along with researchers and other project partners throughout the process. By this the consortium can take into consideration and benefit from stakeholders interests, expertise and experiences and secure robust recommendations. These events are to be designed and delivered in a way that supports efficient and effective communication and exchange of feedback among participants. Each event will be followed by reporting of outcomes to be used by other WPs and the further development of the project.

The stakeholder events are important for many reasons. First of all the results and documentations from the research and review processes (WP2 and WP3) will be presented and discussed in stakeholder events, so that the final recommendations become as robust as possible. Secondly, the stakeholder events are designed in a way so that they will support the development of a communicative culture across “language” barriers among stakeholders and between stakeholders and researchers. Finally, the events have the role of help disseminating the final results from the OrAqua-project, supporting increased societal impact.

Since the beginning of the project, WP5 worked with the other WP’s in order to plan, design and organise the first Stakeholder event. The “terms of references” was developed into a document, which describes the guiding principles behind the approach and methodology chosen. The “working guidelines” was developed into a detailed checklist, which is to be seen as a living document that shows how the events will be planned, managed and facilitated. Deliverable 5.1 is both a number of documents and concrete outputs, but also the establishment of stronger relations and a shared understanding within the OrAqua-project regarding the different roles among all participants (including the external participants invited to the first Stakeholder event).

Based on a collaborative planning process, and by liaising with WP1, 2, 3 and 4, a final program and detailed schedule for the first Stakeholder event were developed. WP5 was responsible for both the actual process facilitation during the Event as well as the transcription and documentation of the outputs. The first Stakeholder event was designed as a pre-conference event to the IFOAM World Congress held in Istanbul on the 11-12th of October 2014. We had 56 external participants at the event, representing different actor groups, resulting in a constructive and engaged discussion. The above mentioned documentation is the main part of Deliverable 5.2 from WP5.

The main reason that we chose to organize the first Stakeholder event in Istanbul, Turkey, instead of Montpellier, France, as listed in the DoW, was that we wanted to create synergies with the IFOAM World Congress and enable more participant to attend. Similar reasons have made us decide that the second Stakeholder event will be held in Rotterdam, the Netherlands, as a pre-conference to the EAS Congress Aquaculture Europe, instead of in Hirtshals, Denmark, as suggested in the DoW.

Our conclusion is that the first Stakeholder Event fulfilled its purposes and also that it has strengthened the stakeholder platform in OrAqua. It is important to keep in mind that it takes time to build strong relations, to explain and create acceptance for the delimitations of our project, and to show how inputs from stakeholders are taken care of and processed, why it is the experiences made over the whole project period which will tell us if we succeeded or not. Nevertheless, our view is that this first step created a good platform for future dialogues. The aspects that need to be changed are taken into account in the planning process of the second Stakeholder event.

The documentation of the first Stakeholder event was presented in D5.2. The feedback sheets and the evaluation form gave us important information regarding organizational, procedural and participation related issues. The outcomes from the round tables and café dialogues became inputs to the scientific review process. Thus, some aspects have already been integrated in the scientific

review (D4.1), and are part of the processing for D4.2 (the MCDA survey) and D4.3 (communication material before the second stakeholder event).

The evaluation of the organization, facilitation and participation of the first event shows that the participants in general were satisfied with the design of the event and the general level of stakeholder participation. Improvements are possible in areas such as access to materials beforehand, event logistics, quality of facilities, and the use of a broader variety of facilitation techniques. The diversity of stakeholders (perspectives, pre-understanding, engagement, etc.) makes it hard to satisfy all individual needs. Nevertheless, the expressed interest in continuing the dialogue with OrAqua and the willingness to contribute to it shows that the participants valued the OrAqua-initiative high and that the event enabled a need among stakeholders to have both voice and influence on the future of organic aquaculture.

WP5 was also responsible for drawing conclusions and suggesting action points based on experiences made at the first Stakeholder Event. The outcomes of the first Stakeholder Event have been discussed by the Project Management Board. Deliverable 5.3 focuses on procedural issues, which need to be addressed to further improve stakeholder involvement and to clarify what content issues were in need of further clarification. Between M12 and M18 the focus of WP5 has been to support the other WP's in the planning process of the second Stakeholder event, with a specific responsibility to develop an outline of a program, suggest facilitation techniques, and make sure that best possible pre-conditions are created for the next event (by for instance using the checklist).

WP6 (Recommendations)

The starting month of WP6 is M22 (cf. DoW).

The overall aim of WP6 is to provide recommendations based on sound scientific evidences, within the framework of the organic principles, for the review of the EU rules for organic aquaculture. Recommendations will be based on the principles of the excellence of the technical/scientific knowledge and of the transparency of data, methods and assumptions made. Recommendations will also take into account the objectives and principles laid down in Regulation (EC) No 834/2007.

2.3 Project management during the period (WP7)

Consortium management tasks and achievements

A successful kick-off meeting was organized during early January (8-10) at Nofima (Ås), Norway with all project partners represented. Minutes for the kick-off meetings are to be found in D7.1 (Annex 2). Project management board (PMB) meeting and workshops for WP2 and WP3 were also organized during these three days. Furthermore, PMB meetings have been organized in connection with the workshops of WP2 and WP3 in Ijmuiden (The Netherlands) in late April 2014, and during the WP2 work-shop in Vodnany, Czech Republic, March 2015. Minutes from the meetings and work-shops are included in the Annex 2. Main topics on the PMB meetings have been reviewing work and planning of the first and second stakeholder events. In total 15 PMB meetings, 2 AC meetings (Ijmuiden and Istanbul) and 2 PGA (Project General Assembly) meetings (Ås and Istanbul) have been held. The next AC and PGA meeting will be in Rotterdam, October 2015 in connection with the second stakeholder event. Unfortunately, the chair of the Advisory Committee (Deborah Brister) have not attended any AC meetings. As we have lost contact with her and she is no longer the international coordinator of aquaculture in IFOAM, Deborah Brister has been replaced with Stefan Bergleiter. The IFOAM representative and chairperson of AC, Stefan Bergleiter was appointed by IFOAM. Chris Atkinson was appointed as a vice president, and is also replacement for Stefan Bergleiter in the AC.

The work and progress of the project is according to the plans, and the good cooperation, motivation and spirit in the consortium is promising for a continuous successful implementation of the project.

The WP partners update the work progress every 3 months in a short internal report of Deliverables. The progress and eventual deviations from the plan is reported in a “red-amber-green” system. In addition, an internal interim report is delivered every 6 months. The format of the internal 6 month report is equal to the present M18 report.

D7.1 had its due date January 2014, but since the Deliverable will progress through the entire project, an updated D7.1 is sent to the Project Officer after every approval of meeting minutes (PMB/AC/PGA), that is done at each PMB meeting. The progress report is also submitted as Deliverable 7.2 (M18) (even though it is stated in chapter 3 that periodic reports should not be Deliverables, defining D7.2 was approved in the application).

Problems that have occurred and how they were solved or envisaged solutions

- The chair of the advisory committee (Deborah Brister) did not attend the two first meetings where AC were invited. As we have lost contact with her and she is no longer the international coordinator of aquaculture in IFOAM, Deborah Brister has been replaced with Stefan Bergleiter. The IFOAM representative and chairperson of AC, Stefan Bergleiter was appointed by IFOAM. Chris Atkinson was appointed as a vice president, and is also replacement for Stefan Bergleiter in the AC.
- The AC group also lost Stephanie Cottee, June 2015, when she announced that she no longer could participate due to workig load and long travel distance (United States). A question was sent to PO, whether we have to replace her or if AC can continue with one member less. We have not had any reply. Stephanie has not attended the two previous AC meetings.

Changes in the consortium, if any

There have been some changes in the consortium:

- April 2015 – The coordinator of OrAqua, Ingrid Olesen (Nofima) was replaced by Åsa Maria Espmark, Senior Research Scientist in Nofima. The change is approved by the Project Officer
- February 2015 – WP2 leader Marnix Poelmann was replaced by Wout Abbink, both from DLO-IMARES.
- The partner DLO-FBR faced major internal changes in the staff, resulting in that they no longer had a role in the project. Their project task 3.1.4 are successfully dealt with by DLO-LEI, WP3 partner.

List of project meetings, dates and venues (also see Annex 2)

- Kick-off meeting + PMB/PGA meetings (8-10th of January 2014)
- WP2 and WP3 had their own work-shops at the kick-off meeting
- WP2 and WP3 work-shop + PMB/AC meeting, Ijmuiden, The Netherlands (23-24th of April 2014)
- WP2 work-shop, + PMB meeting, Vodnany, Czech Republic (24-26th of March 2015). WP3 participated via Lync
- 1st stakeholder event + PMB/AC/PGA meetings, Istanbul (11-12th of October 2014)

- PMB meetings, Lync:
 - 27th of May 2014
 - 19th of June 2014
 - 13th of August 2014
 - 12th of September 2014
 - 24th of September 2014
 - 2nd of October 2014
 - 9th of October 2014
 - 27th of October 2014
 - 3rd of December 2014
 - 23rd of January 2015
 - 11th of March 2015
 - 14th of April 2014
- WP3 meetings, Lync
 - 16th of June 2014
 - 19th of November 2014
- WP7 meetings
 - Catherine Halbert (Halbert Research) – Ås, 14th of November 2013
 - Catherine Halbert (Halbert Research) – Ås 13th of November 2014

Project planning and status

Currently, the PMB group is fully occupied with the organization of the 2nd stakeholder event, to be held in Rotterdam 19-20th of October 2015. The stakeholder list is completed and 80 participants are invited (stakeholders, AC members, project partners). The invitations were sent 11th of May 2015. Until October 2015 this event will be the prioritized activity of the project. The scientific (WP2) and socioeconomic (WP3) reviews (D2.1 and D3.1) have been occupying many resources the last year, and will be submitted within the period of this report (M18).

After the 2nd stakeholder event, where the MCDA survey will be in focus, the survey will be analysed and the results will be communicated in an easily conceivable way, and disseminated (WP4). Also, the rest of the information obtained from the stakeholder event will be processed (e.g. recommendations). The last part of the project will focus on the results from the MCDA, and updates of the review reports to arrive at updated science-based recommendations (WP6) for the EU organic regulations.

Impact of possible deviations from the planned milestones and deliverables, if any

In the reporting period, there have not been any registered deviations from the planned milestones and deliverables.

Any changes to the legal status of any of the beneficiaries, in particular non-profit public bodies, secondary and higher education establishments, research organisations and SMEs

Nothing to report

Development of the Project website, if applicable

The web-site www.oraqua.eu was published in M1, and is constantly being updated. The headings on the web-site offers information such as: “About OrAqua”. “WP OrAqua organisation”, “First platform meeting”, “Newsletters” and “Organic regulations”. Two newsletters have been posted on

the site. Of public information from the first stakeholder event, is the program and the ppt`s from the event.

In addition to the public available information, the site also has a restricted site for stakeholders and project partners. This restricted site provides information such as:

- Names, organization and e-mail addresses of all participants at the 1st stakeholder event
- D5.3: Conclusions and action points from the first stakeholder event
- Information and feedback from the first stakeholder platform meeting

The reason for keeping this information restricted is to secure the anonymous status of the stakeholders. The information contains personal information of identity. Also, stakeholder feedback may, despite the anonymous ascription, be possible to track back to specific persons.

The section should also provide short comments and information on co-ordination activities during the period in question, such as communication between beneficiaries, possible co-operation with other projects/programs etc.

Most WP`s and activities in OrAqua involves many of the project partners (e.g. the WP2 review, preparation of stakeholder lists and planning of events). The PMB group contains of all WP leaders, and as shown above, the board meets frequently, both physically and online (via Lync). Another example of involvement of partners is when all OrAqua participants at the WP2 work-shop in Vodnany participated in the test of the MCDA survey.

The project has collaboration with different organizations; such as IFOAM during the organization of the 1st stakeholder event as a pre-conference to the 18th IFOAM organic world congress in Istanbul October 2014. Also, the 2nd stakeholder event will be organized as a pre-conference to AE2015 in Rotterdam in October 2015, in collaboration with EAS (European Aquaculture Society).

Because one scope of OrAqua is to provide science based recommendations to the EU regulations, the project has tight contact with the EU expert organ EGTOP (Expert Group for Technical Advice on Organic Production). The purpose of EGTOP is to provide the Commission with technical advice on the authorization of products, substances and techniques for use in organic farming and processing, to develop or improve organic production rules and, more generally, for any other matter relating to organic production.

Links have also been created between the project partners and some already existing multi-stakeholder platforms, in particular the Aquaculture Mediterranean Stakeholder Platform (AMShP), the EATiP platform and the Aquasem (Asia) platform.

3. Deliverables and milestones tables

Deliverables

The deliverables due in this reporting period, as indicated in Annex I to the Grant Agreement have to be uploaded by the responsible participants (as indicated in Annex I), and then approved and submitted by the Coordinator. Deliverables are of a nature other than periodic or final reports (ex: "prototypes", "demonstrators" or "others"). **The periodic reports and the final report have NOT to be considered as deliverables.** If the deliverables are not well explained in the periodic and/or final reports, then, a short descriptive report should be submitted, so that the Commission has a record of their existence.

If a deliverable has been cancelled or regrouped with another one, please indicate this in the column "Comments".
If a new deliverable is proposed, please indicate this in the column "Comments".

The number of persons/month for each deliverable has been defined in Annex I of the Grant Agreement and cannot be changed. In SESAM, this number is automatically transferred from NEF and is not editable. If there is a deviation from the Annex I, then this should be clearly explained in the comments column.

This table is cumulative, that is, it should always show all deliverables from the beginning of the project.

TABLE 1. DELIVERABLES M1-M18

Del. no.	Deliverable name	Version	WP no.	Lead beneficiary	<i>Nature</i>	Dissemination level¹	Delivery date from Annex I (proj month)	Actual / Forecast delivery date Dd/mm/yyyy	Status No submitted/ Submitted	Comments
D7.1	Minutes from well-organised meetings		7	NOFIMA		PU	1		Submitted	Subsequently updated
D7.2	Progress report and financial report for 1 st period		7	NOFIMA		PU	18	30/06/2015	Submitted	
D1.1	List of the first platform stakeholders and of target end users for dissemination		1	IFREMER		PU	1	31/01/2014	Submitted	No comments
D1.2	Dynamic and regularly updated website tailored for		1	IFREMER		PU	3	31/03/2014	Submitted	No comments

¹ **PU** = Public

PP = Restricted to other programme participants (including the Commission Services).

RE = Restricted to a group specified by the consortium (including the Commission Services).

CO = Confidential, only for members of the consortium (including the Commission Services).

Make sure that you are using the correct following label when your project has classified deliverables.

EU restricted = Classified with the mention of the classification level restricted "EU Restricted"

EU confidential = Classified with the mention of the classification level confidential " EU Confidential "

EU secret = Classified with the mention of the classification level secret "EU Secret "

	OrAqua's needs and participants in operation									
D1.3.	Dissemination (throughout the project)		1	IFREMER		PU	6	6	Submitted	No comments
D2.1	Production issues in organic aquaculture		2	DLO-IMARES		PU	18		submitted	Production issues in organic aquaculture
D2.2	Knowledge gaps		2	DLO-IMARES		PU	18		submitted	Knowledge gaps
D3.1	Consumer aspects: Report on consumer aspects related to European organic aquaculture		3	Nofima	R	PU	18	30/06/2015	Submitted	No comments
D3.2	Farm economics and competitiveness of organic aquaculture		3	DLO/LEI	R	PU	18	30/06/2015	Submitted	No Comments
D3.3	The institutional framework for organic aquaculture – Critical development constraints and the potential for improvement		3	Nofima	R	PU	18	30/06/2015	Submitted	No Comments
D4.1	Extracted and integrated/synthesized information from WP2 and WP3 (1st stakeholder event)		4	DTU Aqua	R	PU	11	11	Submitted	No comments
D5.1	Stakeholder event – terms and guidelines		5	SLU		RE	9	30/09/2014	Submitted	
D5.2	Stakeholder events – facilitation		5	SLU		RE	11	27/11/2014	Submitted	
D5.3	Conclusions and action points from stakeholder events		5	SLU		RE	12	16/12/2014	Submitted	

Milestones

Please complete this table if milestones are specified in Annex I to the Grant Agreement. Milestones will be assessed against the specific criteria and performance indicators as defined in Annex I.

This table is cumulative, which means that it should always show all milestones from the beginning of the project.

TABLE 2. MILESTONES M1-M18							
Milestone no.	Milestone name	Work package no	Lead beneficiary	Delivery date from Annex I dd/mm/yyyy	Achieved Yes/No	Actual / Forecast achievement date dd/mm/yyyy	Comments
MS1	Kick-off meeting	7	NOFIMA	31/01/2014	Yes	08/01/2014	No comment
MS2	Multi-stakeholder platform established, list of participants available, web site in operation.	1	IFREMER	30/06/2014	Yes		No comment
MS3	Preliminary report of review of production and socio economic issues	2 + 3	IMARES + NOFIMA	31/08/2014	Yes	29/08/2014 (socio-economic issues)	No comment
MS4	Technical information and preliminary results from WP2 and WP3	2 + 3	IMARES + NOFIMA	31/11/2014	Yes	26/11/2014 (socio-Economic issues)	No comment
MS5	1 st stakeholder event	1	SLU	31/11/2014	Yes		No comment
MS6	Analyses of information of and beedback from 1s stakeholder event	4	SLU	31/12/2014	Yes		No comment

MS7	Final review report of production and economic issues	2+3	DLO-IMARES (2) and NOFIMA (3)	30/06/2015	Yes		To be updated in M30
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5. Financial report ready after M18

Explanation of the use of the resources and financial statements

The financial statements have to be provided within the Forms C for each beneficiary (if Special Clause 10 applies to your Grant Agreement, a separate financial statement is provided for each third party as well) together with a summary financial report which consolidates the claimed Community contribution of all the beneficiaries in an aggregate form, based on the information provided in Form C (Annex VI of the Grant Agreement) by each beneficiary.

The "Explanation of use of resources" requested in the Grant Agreement for personnel costs, subcontracting, any major costs (ex: purchase of important equipment, travel costs, large consumable items) and indirect costs, have now to be done within the Forms (user guides are accessible within the Participant Portal)².

When applicable, certificates on financial statements shall be submitted by the concerned beneficiaries according to Article II.4.4 of the Grant Agreement.

Besides the electronic submission, Forms C as well as certificates (if applicable), have to be signed and sent in parallel by post.

² In the past, the explanation of use of resources requested in the Grant Agreement was done within a table in this section. The merge of this table within the Forms C was a measure of simplification aimed at avoiding duplication and/or potential discrepancies between the data provided in the table 'Explanation of use of resources' and the data provided in the Forms C.

IMPORTANT:

Form C varies with the funding scheme used. Please make sure that you use the correct form corresponding to your project (Templates for Forms C are provided in Annex VI to the Grant Agreement). An example for collaborative projects is enclosed hereafter.

A Web-based online tool for completing and submitting forms C is accessible via the Participant Portal: <http://ec.europa.eu/research/participants/portal>, (except for projects managed by DG MOVE and ENER).

If some beneficiaries in security research have two different rates of funding (part of the funding may reach 75%³) then two separate financial statements should be filled by the concerned beneficiaries and two lines should be entered for these beneficiaries in the summary financial report.

³ Article 33.1 of the EC FP7 rules for participation - REGULATION (EC) No 1906/2006.

FP7 - Grant Agreement - Annex VI - Collaborative Project

Form C - Financial Statement (to be filled in by each beneficiary)

Project nr	nnnnn	Funding scheme	Collaborative Project
Project Acronym	xxxxxxxxxxxxxxxxxxxxxx		
Period from	dd/mm/aa	Is this an adjustment to a previous statement ?	Yes/No
To	dd/mm/aa		
Legal Name		Participant Identity Code	nn
Organisation short Name		Beneficiary nr	nn
Funding % for RTD activities (A)		If flat rate for indirect costs, specify %	%

1- Declaration of eligible costs/lump sum/flat-rate/scale of unit (in €)

	Type of Activity				TOTAL (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs					
Subcontracting					
Other direct costs					
Indirect costs					
Lump sums/flat-rate/scale of unit declared					
Total					
Maximum EC contribution					
Requested EC contribution					

2- Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement ?
If yes, please mention the amount (in €)

Yes/No

3- Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)

Did the pre-financing you received generate any interest according to Art. II.19 ?
If yes, please mention the amount (in €)

Yes/No

4. Certificate on the methodology

Do you declare average personnel costs according to Art. II.14.1 ?

Yes/No

Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art. II.4.4 ?

Yes/No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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5- Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4 ?

Yes/No

Name of the auditor		Cost of the certificate (in €)	
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6- Beneficiary's declaration on its honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and Article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art. II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art. II.19 of the grant agreement ;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
	Date & signature

FP7 - Grant Agreement - Annex VI - Collaborative Project

Form C - Financial Statement (to be filled in by Third Party) Only applicable if special clause nr 10 is used

Project nr	nnnnnn	Funding scheme	Collaborative Project
Project Acronym	xxxxxxxxxxxxxxxxxxxxxx		
Period from	dd/mm/aa	Is this an adjustment to a previous statement ?	Yes/No
To	dd/mm/aa		
3rd party legal Name			
3rd party Organisation short Name		Working for beneficiary nr	nn
Funding % for RTD activities (A)		If flat rate for indirect costs, specify %	%

1- Declaration of eligible costs/lump sum/flat-rate/scale of unit (in €)

	Type of Activity				TOTAL (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs					
Subcontracting					
Other direct costs					
Indirect costs					
Lump sums/flat-rate/scale of unit declared					
Total					
Maximum EC contribution					
Requested EC contribution					

2- Declaration of receipts

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement ?
If yes, please mention the amount (in €)

Yes/No

3- Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)

Did the pre-financing you received generate any interest according to Art. II.19 ?
If yes, please mention the amount (in €)

Yes/No

4. Certificate on the methodology

Do you declare average personnel costs according to Art. II.14.1 ?

Yes/No

Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art. II.4.4 ?

Yes/No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
----------------------------	--	--	--

5- Certificate on the financial statements

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4 ?

Yes/No

Name of the auditor		Cost of the certificate (in €)	
----------------------------	--	---------------------------------------	--

6- Beneficiary's declaration on its honour

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and Article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art. II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art. II.19 of the grant agreement ;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
	Date & signature

FP7 - Grant Agreement - Annex VI - Collaborative Project

Summary Financial Report - Collaborative Project- to be filled in by the coordinator

Project acronym	xxxxxxxxxxxxxxxxxxxxxxxxxxxx	Project nr	nnnnnn	Reporting period from	dd/mm/aa	to:	dd/mm/aa	Page	1/1
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Funding scheme		Type of activity															
CP		Beneficiary n°	If 3rd Party, linked to beneficiary	Adjustment (Yes/No)	Organisation Short Name	RTD (A)		Demonstration (B)		Management (C)		Other (D)		Total (A)+(B)+(C)+(D)		Receipts	Interest
Total	Max EC Contribution					Total	Max EC Contribution	Total	Max EC Contribution	Total	Max EC Contribution	Total	Max EC Contribution	Total	Max EC Contribution		
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
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17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
TOTAL																	

Requested EC contribution for the reporting period (in €)

Annex 1: List of the participants to the first Oraqua platform meeting



First Stakeholder Event
Istanbul, 11&12 October 2014

Attendance List

Name	Surname	Company/Organisation	Email address	Country
Advisory board				
Anne-Kristin	Løes	Bioforsk	anne-kristin.loes@bioforsk.no	NO
François	Simard	IUCN	francois.simard@iucn.org	CH
Jimmy	Young	University of Stirling	j.a.young@stir.ac.uk	UK
Project Partners				
Wout	Abbink	Wageningen University	wout.abbink@wur.nl	NL
Zdenek	Adamek	Institute of Vertebrate Biology	adamek@ivb.cz	CZ
Themis	Altintzoglou	Nofima	themis.altintzoglou@nofima.no	NO
Jean-Paul	Blancheton	IFREMER	jean.paul.blancheton@ifremer.fr	FR
Antonio	Campanioni	Istituto Certificazione Etica e Ambientale	a.compagnoni@icea.info	IT
Andrea	Fabris	Associazione Piscicoltori Italiani	andreafabris@hotmail.com	IT
Jan Widar	Finden	Debio	jan.widar.finden@debio.no	NO
Elonora	Fiocchi	Istituto Zooprofilattico Sperimentale delle Venezie	efiocchi@izsvenezie.it	IT
Pirjo	Honkanen	Nofima	pirjo.honkanen@nofima.no	NO
Lizzie M	Jespersen	Intern. Centre for Research in Organic Food Systems	LizzieM.Jespersen@icrfs.org	DK
Alfred	Jokumsen	Danmarks Tekniske Universitet	ajo@aqu.dtu.dk	DK
Marie-Louise	Krejsler Andersen	Aarhus University	527108@uni.au.dk	DK
Giuseppe	Lembo	COISPA Tecnologia & Ricerca	lembo@coispa.it	IT
Jan Magnus	Ljung	Swedish University of Agricultural Sciences	magnus.ljung@slu.se	SW
Marilo	Lopez	Culmarex	marilo.lopez@culmarex.com	SP
Amadeo	Manfrin	Istituto Zooprofilattico Sperimentale delle Venezie	manfrin@izsvenezie.it	IT
Ingrid	Olesen	Nofima	ingrid.olesen@nofima.no	NO
Catherine	Pons	Federation of European Aquaculture Producers	catherine@feap.info	BE
Henri	Prins	Wageningen University	henri.prins@wur.nl	NL
Emmanuelle	Roque d'Orbcastel	IFREMER	Emmanuelle.roque@ifremer.fr	FR
Maria	Spedicato	COISPA Tecnologia & Ricerca	spedicato@coispa.it	IT
Nadarajah	Sriskandarajah	Swedish University of Agricultural Sciences	Nadarajah.Sriskandarajah@slu.se	SW
Robert	Stokkers	Wageningen University	robert.stokkers@wur.nl	NL



First Stakeholder Event
Istanbul, 11&12 October 2014

Attendance List

Name	Surname	Company/Organisation	Email	Country
Platform participants				
Regine	Andersen	Organic Norway	regine@oikos.no	NO
Christopher	Atkinson	Soil Association	CATkinson@SoilAssociation.org	UK
Pablo	Avila Saragoza	Junta de Andalucia	pablo.avila@juntadeandalucia.es	ES
Hans Stefan	Bergleiter	Naturland	s.bergleiter@naturland.de	DE
Eric	Bernard	RNO	eric.bernard@rno.fr	FR
Emmanuel	Briquet	Searen	e.searen@gmail.com	FR
Emmanuele	Busacca	IFOAM EU	Emanuele.Busacca@ifoam-eu.org	EU
Simon	Bush	Wageningen University	simon.bush@wur.nl	NL
John	Carmichael	Biomar	Jcarmichael@biomar.co.uk	UK
Eric	Causse	Greensea	eric.causse.greensea@orange.fr	FR
Udo	Censkowsky	Organic Services	u.censkowsky@organic-services.com	DE
Arnault	Chaperon	Fish Farmer - FEAP President	ac@echaps.eu	FR
Thomas	Cierpka	IFOAM EU	T.Cierpka@ifoam.org	EU
Jean-Marc	Cochet	Idee aquaculture	jmcochet@ideeaquaculture.com	FR
Dominique	Corlay	Aquaculture Natural Solutions	naturalsolutions-aqua@orange.fr	FR
Eduardo	Cuoco	TP Organics	eduardo.cuoco@tporgancis.eu	EU
Per	Dolmer	Orbicon	pdol@orbicon.dk	DK
Konstantinos	Dristas	Environmental Consultant	kostas.dristsas@gmail.com	GR
Alicia	Estevez	IRTA Research Institute	alicia.estevez@irta.es	SP
Pierre	Fortin	Le Gouessant	pierre.fortin@legouessant.fr	FR
Ernesto	Franzolini	Naturalleva	ernesto_franzolini@naturalleva.it	IT
Marco	Fuselli	Rio Fontane	m.fuselli@rio-fontane.191.it	IT
Denez	Gal	HAKI	gald@HAKI.hu	HU
Eric	Gall	IFOAM EU	eric.gall@ifoam-eu.org	EU
David	Gould	IFOAM EU	d.gould@ifoam.org	EU
Stefan	Holler	Naturland	s.holler@naturland.de	DE
Malin	Jonel	Uppsala University	malin.jonell@geo.uu.se	SW

European Organic Aquaculture - Science-based recommendations for further development of the EU regulatory framework and to underpin future growth in the sector



First Stakeholder Event
Istanbul, 11&12 October 2014

Attendance List

Name	Surname	Company/Organisation	Email	Country
Platform participants (cont'd)				
Matthias	Kaiser	University of Bergen	Matthias.Kaiser@svt.uib.no	NO
Joelle	Katto-Andrighetto	IFOAM EU	j.katto@ifoam.org	EU
Duncan	Knowler	Simon Fraser University	djk@sfu.ca	CA
Henrik	Korsholm Larsen	Danish Veterinary and Food Administration	HEKOR@fvst.dk	DK
Villy Juul	Larsen	Dansk Akvakultur	villy@danskakvakultur.dk	DK
Marine	Levadoux	CIPA - Comité interprof. des produits de l'Aquaculture	mlevadoux@cipaquaculture.asso.fr	FR
Catherine	Mc Manus	Marine Harvest	Catherine.McManus@marineharvest.com	NO
Marc Anton	Moessmer	Biofish	marc.moessmer@biofish.at	AT
Angela	Morell Perez	IFOAM EU	angela.morell@ifoam-eu.org	EU
Peter	Niedermeier	Binca	p.niedermeier@binca.de	DE
Mette R.	Nørrelykke	Aller-Aqua	mrn@aller-aqua.dk	DK
Bjarne Hald	Olsen	Billund Aquakulturservice A/S	bjarne@billund-aqua.dk	DK
Jan Vidar	Olsen	Salmar	jan.vidar.olsen@salmar.no	NO
Filippos	Papageorgiou	Kefish	f.papageorgiou@kefish.gr	GR
Rosaria	Piseri	AlgAran	rosaria@algaran.com	UK
Maria	Ramos	Inia	ramos.maria@inia.es	ES
Marco	Schuelter	IFOAM EU	marco.schuelter@ifoam-eu.org	EU
Soizic	Schwartz	Min. de l'Ecologie, du Dévlp't durable et de l'Energie	soizic.schwartz@developpement-durable.gouv.fr	FR
Michèle	Stark	Institute for Market Ecology	mis@imo.ch	CH
Solveig	van Nes	Bellona	Solveig@bellona.no	NO
Reinier	Vandenbiggelaar	Hortimare	reinier.vandenbiggelaar@hortimare.com	NL
Erdmann	Wischhusen	Seafood Connection	erdmann@seafoodconnection.de	DE
Michela	Zanibellato	Rio Fontane	m.fuselli@rio-fontane.191.it	IT

Annex 2: D7.1 and WP work-shops minutes

D7.1: Minutes from well-organised meetings:

Project OrAqua Deliverable Report 7.1

Deliverable 7.1 Minutes from well-organized project meetings

Date: January 2014 - December 2014

Author: Åsa Maria Espmark

OrAqua Kick-off meeting minutes

Day 1 Wednesday 8th of January: Project Management board (PMB)

Attending: Jean-Paul Blancheton, Marnix Poelman, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Magnus Ljung, Giuseppe Lembo, Ingrid Olesen, Åsa Espmark (Minutes)

1. Opening by coordinator Ingrid Olesen
 - The consortium agreement is still not signed, as a few things will be sorted out during the kick-off meeting before the document is redistributed for signing.
 - Objective with kick-off: to build a strong team, that is well informed about and involved in the project plans, objectives and actions. Furthermore, it gives an opportunity to spread information about OrAqua outside the consortium.
2. WP7 was presented by Ingrid Olesen
 - Concerning the Consortium Agreement, one partner wants to move «Project general assembly» above «Project management board» - it is not easy to change this as it is defined in the DoW. The current structure is more dynamic and flexible. We want to keep this as it is, but this can be discussed at the kick-off meeting.
 - Project Advisory Committee (AC) members should be invited for a meeting early in the project, but there is no budget for their travels to a separate meeting.

European Organic Aquaculture - Science-based recommendations for further development of the EU regulatory framework and to underpin future growth in the sector

- PMB meeting will be scheduled to April. A Skype meeting is possible but AC cannot be included as there will be too many participants for a Skype meeting to work properly. The first meeting with AC is the most important, but we don't have funding for a physical meeting with PMB + AC. Hence, the question to reallocate some money from the budget for stake holder events (planned with 80 participants) was raised.
 - Decision: Ingrid asks the Project officer (PO) if it will be possible to reallocate money from the budget for stakeholder events to a 1st meeting with the advisory committee and PMB. If they don't agree we go for two separate meetings; one for AC and another for the PMB.
 - M18 report – has to be ready in June -15 due to holidays in July and August.
3. WP1 was presented by Jean Paul Blancheton.
- The First Multi Stakeholder Platform participant list should be accessible on the OrAqua web site (www.oraqua.eu).
 - How do we reach interested stakeholders? One possibility is to advertise on LinkedIn and on www.oraqua.eu. We need to be proactive, e.g. send periodic release to media, send info to ISO FAR before their next issue, conference in Istanbul, Intrafish and invite the media to events, amongst others.
 - www.oraqua.eu: Ifremer (WP1) will create the web-site with a link to SharePoint. Both the web-site and SharePoint will be administrated by Ifremer. We want an open access to www.oraqua.eu and a restricted access to SharePoint.
4. WP2 was presented by Wout Abbink
- It needs to be clarified how outputs from WP2 should be integrated into WP4. Common work-shops for WP2, WP3 and WP4 will be important.
 - It has to be clarified more in what format the information from WP2 and 3 should be delivered to WP4 during the Kick-off meetings.
 - WP2 needs to have some results finished already for the first workshop in April 2014.
5. WP3 was presented by Pirjo Honkanen

European Organic Aquaculture - Science-based recommendations for further development of the EU regulatory framework and to underpin future growth in the sector

- Regarding task 3.1.3, the issue of securing representation of sufficient number of consumers who buy organic products regularly among the respondents was discussed. This may be one of the specifications for the surveying agency in question.
 - LEI will replace FBR in task 3.1.4 as Adriaan Kole has left FBR and FBR does not have any replacement to cover the competence needed.
6. WP4 was presented by Alfred Jokumsen
- What is handed over to WP4 from WP2 and 3 has to be in an easily understandable form, for example fact sheets on different issues (e.g. nutrition, fish welfare, veterinary treatments, consumer aspects, and farm economics).
7. WP5 was presented by Magnus Ljung
- The first stakeholder event will be challenging because it will take place before WP2 and 3 have worked long enough to be able to present many results. They will therefore only have preliminary results. Before the first event, it will be important to identify possible bottlenecks that the stakeholders will be interested in.
 - It will be challenging to recruit stakeholders, and in order to secure enough participants one alternative is to make a reserve list. Another alternative is to invite more people than the predefined number of 80 participants.
 - Interpretation is needed for the stakeholder event if we decide to invite participants who do not speak and understand English. The possibility to allow for simultaneous interpretation was discussed, but is probably not realistic as it is too expensive.
 - We need feedback from the Project officer (PO) to what extent we are flexible to decide e.g. the location of meetings to diminish the costs and to attract more participants. Organizing the event in October in conjunction with the World congress of IFOAM in Istanbul in Mid-October will for example allow for more participants from the organic movements and industry.
 - Decision: Ingrid contacts the PO to clarify this matter.
8. WP6 was presented by (Giuseppe (Pino) Lembo).
9. Changes agreed on were made in the original presentations and the up-dated PPTs were printed for inclusion in the participants packages on day 2 (see attachment).

Day 2 Thursday 9th of January: Project General Assembly

Attending: 25 participants representing the partners + project coordinator Ingrid Olesen + project manager Åsa Espmark + meeting coordinator Tove Kristiansen = 28).

The following minutes will be published on the SharePoint site together with the presentations from the Work Packages (WP1-7).

1. Øyvind Fylling Jensen (CEO of Nofima) welcomed the participants to Nofima. Further he presented:
 - Information of Nofima.
 - Challenges with organic production, such as medication, waste, feed, welfare were pin pointed
 - Organic may be a trend such as other trends, we have to be aware that the organic trend may change and even decline.
 - Harmonisation of the regulations is important, so that the concept of organic aquaculture is valid all over the world.

2. Introduction to organic production and the project, and opening of the kick-off meeting was done by Ingrid Olesen (Project coordinator).
 - All participants introduced themselves
 - In addition to finding relevant literature for organic production, it is also important to define the knowledge gaps. The EU regulations to a higher degree need be built on scientific ground.
 - The EU standards today are from 2010.
 - Ireland, Norway and UK have the biggest organic salmon production, while salmon and shrimps have the biggest organic global production.
 - Organic products are perceived as positive among most consumers. Farmers seem to be concerned that when promoting organic fish consumers may perceive conventional fish as inferior products, whereas agriculture companies experience that marketing organic products of the brand improves the image of the whole brand including conventional products.

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- The Norwegian government has opened for that the farmers may apply for Green licences (licences that require alternative management to be more sustainable and environmental friendly). This may create opportunities for organic farming.
3. WP7 was presented by Ingrid Olesen
- Project management board (PMB) + Advisory committee (AC) meeting should be organised before the 1st stakeholder meeting.
 - Courtney Hough: Partners that has low contribution and funding in OrAqua do not need audit certification.
4. WP1 was presented by Jean Paul Blancheton
- Minutes from this kick-off meeting will be loaded into SharePoint.
 - Antonio Compagnoni listed several meetings on organic production and certification, including a.o. IFOAM and Slowfood organization meeting, where OrAqua should be promoted. This will be followed up in PMB.
5. WP2 was presented by Wout Abbink.
- There was a discussion regarding timing of deliverables in WP2 and 3 that are dependent on each other. This has to be carefully taken care of such that information is available for WP4 in time.
 - There are many species in the groups of e.g. salmonids, shrimps and molluscs. In the DoW the species are not defined, and this has to be done before the review work starts in WP2.
6. WP3 was presented by Pirjo Honkanen.
- Courtney Hough: It is difficult to obtain economic data from companies and they have therefore to be kept confidential. Be careful when selecting businesses. Organic farmers may be small farmers and the data may be even more difficult to obtain.
7. WP4 was presented by Alfred Jokumsen.
- In WP2 and WP3, many factors are relevant for organic production and the importance of and approach to decide which of these factors should be followed up on was discussed. This will be further clarified in WP meetings the following day.

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- Political mission creep is currently not Organic aquaculture (but sustainable aquaculture), and it is therefore important to keep the focus on the DoW.
 - Preliminary results from WP2 and WP3 will be the basis for the first stakeholder meeting.
8. WP5 was presented by Magnus Ljung.
- It will be important to decide what language should be used during the stakeholder meetings. This will most likely influence what stakeholders we may attract as many do not understand or are reluctant to speak English.
 - 1st event will be organized in Month 11 (April 2015) in Montpellier.
 - 2nd event will be organised in November 2015 in Denmark.
 - 3rd event will be organised in November 2016 in Brussels. It was suggested to change this event to another cheaper place and possibly in conjunction with another meeting such as an EAS conference to attract more stakeholders. This will be applied for to the PO.
 - MCDA questionnaire can be in different languages and sent to other stakeholders that cannot participate in the stakeholder event due to language barriers.
9. WP6 was presented by Giuseppe Lembo
10. Revision of the EU regulation on the organic aquaculture was presented by Giuseppe Lembo.
- Even though OrAqua has started, the EU themselves also have started to revise the regulations for organic aquaculture.
 - EGTOP = expert group for technical advice on organic production. This group has been requested to report on the following issues:
 - (a) The use of non-organic juveniles in the context of the sequential phasing out of their use by 31/12-15.
 - (b) Stocking density for the main species or group of species other than molluscs (*Astacus astacus*, *Pacifastacus leniusculus*).
 - (c) Permitted feed sources and feed additives: trimming, whole fish, amino acids, fatty acids, lipids, lecithin, cholesterol etc.

- (d) Amount of animal protein in shrimp diet.
 - (e) Substances for cleaning and disinfection in the presence of animals.
 - (f) Food additive sodium meta-bisulphide.
 - (g) Prohibition of eyestalk ablation.
 - (h) Specific rules for hatchery, larval, post-larval and juveniles rearing.
 - (i) Specific rules for micro algae.
 - (j) Restocking in lakes, earth ponds of tidal areas and costal lagoons.
 - The above mentioned work is coordinated by DG Mare and DG Agri, and will continue in the year 2014.
11. Financial issues of the OrAqua project was presented by Anne Risbråte, Nofima.
- All partners have to keep track on the project costs.
 - All partners have to keep time sheets and to record the working hours spent in the project. If the partner has their own software for time recording this can be used, if not it is possible to use e.g. Excel sheet.
 - Travel expense need to be documented.
12. The Consortium agreement for OrAqua was presented by Isabel Lien, Nofima.
- A version of the Consortium agreement with suggested changes after input from partners was presented, where names that were wrongly spelled were corrected. As a general rule the Consortium Agreement cannot be changed if this conflicts with the DoW. Project management board (PMB) will therefore remain the management body at the highest level in OrAqua organisation. We change the organisation so that Nofima only has one vote in the PMB apart from the casting vote of coordinator in case of a tie vote.
 - A new version will include corrections based on the comments received by e-mail last year and some corrections from the kick-off meeting. This will be sent out for signing in the beginning of week 3.

Day 2 Thursday 9th of January: Project Management board (PMB) afternoon meeting

Attending: Jean-Paul Blancheton, Marnix Poelman, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Magnus Ljung, Giuseppe Lembo, Ingrid Olesen, Åsa Espmark (Minutes)

1. WP2 and 3:

It is important to get started ASAP with the work in WP2 and 3, and there is a need to concentrate on issues to search literature from (e.g. stocking density, welfare, water quality), and prepare fact sheets for the different issues. We won't be able to define all issues during the meetings tomorrow, but most important is the specification of output and the format of output for WP4. We will start with a plenary session to clarify this in the morning before going into WP meetings. Magnus will facilitate this session.

2. WP1:

- The general session Friday morning will start with the open list for project dissemination and invite participants at the meeting to suggest and add stakeholders suggestions (the participants will be able to e-mail their contributions to the list after the meeting), secondly a list of stakeholders to invite for the platform meetings will be created (later after the meeting).
- At the stakeholder events we have to be aware of and prepare for the possibly coming conflict of interests between different participants.
- Sponsorships for the events by, for example, conference organizers that can host the stakeholder events should be considered.

3. Events where OrAqua should be represented:

- FEAP Croatia – May 2014: Jean Paul Blancheton will attend.
- General meeting of Leading Organic Alliance (LOA) – May 2014 (Ingrid Olesen will attend if OrAqua is invited from LOA).
- Italy Consumer association – May 2014 (Pino Lembo will attend).
- World conference IFOAM – October 2014 (Pino Lembo will attend).
- Slow food – October 2014 (Pino Lembo will attend).

Day 3 Friday 10th of January: Project General Assembly

1. Plenum issue 1: Frame-work of WP2, WP3 and their input to WP4 (see also point 1 Day 2 PMB afternoon meeting).

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- Species selection in WP2 is needed for WP3, this has to be done at first in WP2 session.
 - WP4 needs input from WP 2 and 3.
 - Fact sheet has to be created for WP4 and include e.g. the state-of-the-art for e.g. Atlantic salmon regarding organic production for nutrition.
 - It will further clarify the essentials of the issues if abstract of each issue is being made.
 - For WP3 it will not be possible to make an issue per specie since there is a lack of scientific literature for all species. The issues for WP3 have to be more general and sometimes based on other organic production (e.g. agriculture), e.g. animal welfare. Hence, it is better to make the reference base (e.g. EndNote) with respect to issues instead of species.
 - Fact sheets for the first stakeholder event have to include the integrated points from both WP2 and 3 (e.g. how do feed influence welfare and consumer perception and farm economics).
 - Knowledge gaps in the literature have to be included. Knowledge gaps will be visible in WP6 when we are to give recommendations to the regulations.
2. Plenum issue 2: First Multi Stakeholder platform participant list (see also point 2a Day 2 PMB afternoon meeting)
- New contributions to the list will be added. The list was passed over to all OrAqua participants during the kick-off meeting. The participants were encouraged to send new contributions to Åsa Espmark (project manager) before a new list is created in week 4.
 - It was agreed to also include Research groups to the list. It was also promoted to have a more geographical diverse list, by including more participants from Eastern Europe and to include stakeholders from outside Europe.
3. Plenary session 3: Summing up Friday work within WP groups:
- WP1 – Jean Paul Blancheton presented a summary of the WP1 meeting.
 - WP2 – Wout Abbink presented a summary of the WP2 meeting.
 - WP3 – Pirjo Honkanen presented a summary of the WP3 meeting.
 - WP4 – Alfred Jokumsen presented a summary of the WP4.

The meeting was closed at 15:00.

Participants:

Org.no.	Organization name	Participant	
		Surname	First name
1	Nofima	Olesen	Ingrid
		Espmark	Åsa
		Honkanen	Pirjo
		Kristiansen	Tove
		Altintzoglou	Themis
		Noble	Chris
		Nielsen	Hanne Marie
2	COISPA	Lembo	Giuseppe
		Spedicato	Maria Teresa
3	DTU	Jokumsen	Alfred
4	Ifremer	Blancheton	Jean Paul
5	USB	Adamek	Zdenek
6	SLU	Ljung	Magnus
		Röcklinsberg	Helena
7	DLO	Poelman	Marnix
		Abbink	Wout
	LEI	Bakker	Johan
		van der Pijl	Willem
		van Haaster de Winter	Mariët
8	Debio	Finden	Jan Widar
9	ICEA	Compagnoni	Antonio
		Baumgartner	Nina
10	ICROFS	Jespersen	Lizzie Melby
		Mathiesen	Camilla
11	FEAP	Hough	Courtney
11	API	Fabris	Andrea
12	IZSve	Manfrin	Amedeo
13	Culmarex	Belluga	Maria Dolores López



OrAqua PMB meetings

Date: 23rd and 24th April 2014

Location: IMARES (IJmuiden, The Netherlands)

Author: Åsa Maria Espmark

Participants: Jean-Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Magnus Ljung, Guiseppe Lembo, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. 23rd; 16.00 – 18.00 PMB meeting
 - a. Opening and welcome (Ingrid)
 - b. Progress since kick-off meeting (all)
 - i. Round-the-table update:
 - ii. Ingrid: signed grant agreement delivered to all participants
 - iii. Consortium agreement signed
 - iv. Proposal to 1st Newsletter ready and handed out. Suggestions to add more pictures of other species than trout and fish
 - v. PO approved moving location for 1st stakeholder meeting to Istanbul
 - vi. WP1 (Jean Paul) – website OK, SharePoint not OK yet
 1. Dissemination list. What input do we want from the stakeholders? PMB discussed this and agreed that it will be more important to invite actors in or representatives from industry and market including certifiers, retailers, consumers and NGOs rather than scientists or specialized experts, particularly at the first event?.
 2. Send the newsletter to the stakeholders at the list and ask them if they want to be updated further from the project
 3. Limit certain site at the website that is closed for public. Who should have access to different parts of the website? Stakeholders and AC members should have access to the same information.
 - vii. WP2 (Wout) - all is said during the workshop, where all PMB members participated.
 - viii. WP3 (Pirjo) – Survey will be conducted in June
 - ix. WP4 (Alfred) - has contributed to the newsletter and stakeholder list
 - x. WP5 (Magnus) – Completed a risk analysis for moving the 1st stakeholder event from Montpellier to Istanbul.
 - xi. WP6 (Pino) – This WP has not started, but has contacted IFOAM about the location of the first event and collaborated in other WP`s

- xii. Pirjo: should the changes in staff be reported to EC? The contract is with the institution and not persons, but the individual names are in the description. Update the project handbook, ask the project office before Interim report if they should be informed about changes in staff.
- c. Evaluation of 1st quarterly reports (Ingrid)
 - i. Ingrid went briefly through the 1st quarterly reports and reminded everybody that this reporting should be on your own WP-level, and not include participation in all WP's.
- d. Planning 1st Stakeholder event (Magnus, Jean-Paul, Pirjo, Wout, Alfred, Ingrid)
 - i. Positive reply from PO to change location. Stakeholder may be held in Istanbul, as a pre-conference to the IFOAM conference in October 2014
 - ii. Jean Paul will make a selection of stakeholders to invite from the stakeholder list
 - iii. Magnus Ljung presented his proposition for program for the 1st stakeholder event, he will make an up-dated version based on the received inputs and distribute to all in week 18 (30th of April to PMB; 2nd of May to IFOAM)
 - iv. Proposal to send some written material to the participants before the meeting to involve them more (Newsletter + separate e-mail)
 - v. We should reconsider Istanbul because IFOAM partly overlaps with EAS
 - vi. Pino has informed IFOAM about our possibility to change location of event to Istanbul, and asked for possibility to arrange it in conjunction with the Ifoam World Congress.
 - vii. Pre-conference two days before the conference may be the solution for the 1st stakeholder event. The pre-conference is organised by the university in Istanbul and they can offer accommodation
 - viii. Problem: we cannot have a unique Oraqua event. We have to share it with IFOAM. We can have a joined planning with IFOAM
 - ix. EAS in San Sebastian also have a session on organic production (EAS 14-17. October, IFOAM 16-17. October)
 - x. Alfred: concern that our stakeholders will go to San Sebastian and not to IFOAM
 - xi. 2nd stakeholder meeting may be at EAS in Rotterdam in October 2015
 - xii. 1st stakeholder event – preliminary conclusion Istanbul, but will be open for advice from the AC at the meeting on the 24th April. Organized as a Lunch to lunch meeting
 - xiii. We can probably not cover the costs for the rest of the world congress for the stakeholders that want to stay after the meeting as EC will not approve costs for longer stay than a total of 2 days.
- e. Up-coming deadlines
 - i. Time became too short to go through all deadlines, but Ingrid did so at the kick-off meeting, and Åsa will continuously give reminders
 - ii. We agreed to have monthly Lync-meetings. Lync is useful since it is easy to share documents. The first meeting will be 27th of May 15.00. Åsa will send a description on how participants that are not Lync clients can participate (Lync Attendee)
- f. AC meeting following day (Ingrid)
 - i. Agenda for AC meeting was presented. Ingrid has made a presentation based on the ppt's from the kick-off.

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2. 24th; 13.00 – 14.00. PMB Summing up
 - a. Following-up actions (all) + summing up yesterday's AC meeting:
 - i. Handbook – everybody read and comment to Åsa and Tove if any comments
 - ii. As an answer to Margreet to include more NGO: we cannot include other partners now, and we want to stick to the science and not involve politics
 - iii. Make a dissemination list after suggestions from Alistair Lane– Alistair will make suggestions
 - iv. Note on www.orqaua.eu about the stakeholder event. But first we need the confirmation from Ifoam that we are allowed to have the event in Istanbul at their world congress
 - v. General assembly will be arranged before or after the stakeholder event, depending on the respond from IFOAM
 - vi. All – send appropriate photos to the newsletter
 - vii. Ingrid – asks Anne Risbråthe if we need to submit quarterly financial reports (for internal use)?
 1. Answer: Internal financial report for first three month of the project: only accounts for January – March 2014, to ensure internally that all partners use the correct rates and do the financial record in the correct way

Sundalsøra, 5th of May,

Åsa Maria Espmark

OrAqua AC + PMB meeting

Date: 24th April 2014

Location: IMARES (IJmuiden, The Netherlands)

Author: Åsa Maria Espmark

Participants from PMB: Jean-Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Magnus Ljung (late arrival), Guiseppe Lembo, Ingrid Olesen, Åsa Maria Espmark

Participants from AC: Alistair Lane (AL), James A. Young (JY), Anne-Kristin Løes (AKL), Franck Meijboom (FM), Margreet van Vilsteren (MV)

Agenda:

- 24th; 10.00 – 13.00
 - a. Opening + welcome (Ingrid)
 - b. Presenting all participants (all)
 - c. Presentation of OrAqua (Ingrid)
 - i. AKL: Add technology platform TP Organic
 - ii. JY: Add Food for life platform
 - iii. AKL: Difficult to see from the objectives in WP2 that we will work with more than fish so should include this when presenting the project
 - iv. MV: WP3 - different NGO`s weight organic differently, and may promote other standards (e.g. ASC Aquaculture stewardship certification).
 - v. JY: Food service (e.g. hotels, catering, schools, hospitals) can be important markets in addition to retailers. Representatives from these should be invited as stakeholders in the project? JY assists with sending names and contacts
 - vi. Include processing industry since organic often is unprocessed
 - vii. Evaluate WP6 objective 2 “holistic approach” – at the end of the project.....how holistic is the project, and can we make it more holistic by considering the total outcome as more than the sum of the different parts (Synergies and unfavourable and unintended side effects)?
 - viii. AL – What drives the industry? Developments are market, structuring and diversification: why go organic in aquaculture? Is it a marketing choice? For instance 100% of Irish salmon farming is organic and large proportion of mussels can perhaps easily become organic, how did they manage?
 - ix. AC-group suggestions to the stakeholder list should be addressed to Jean-Paul (Irish farmers association by Richie Flynn as they can tell why the Irish went almost completely organic ...ask Courtney for address)
 - x. Advice to have an informal financial report close to the end of the project to have an idea of the financial status before the last 3-4 months
 - d. AC mandate with AC input
 - i. Not commented on mandate given in the DoW.

General discussion

- Make a list of why it is important for the different stakeholders to participate in the OrAqua stakeholder events.
- MV: Need for more NGO influence in the consortium, and too much focus on industry. Afraid that this will result in little focus on the environmental aspects of organic farming. Not enough that the NGO's are involved via stakeholders, they might not come due to lack of time and resources. Not all the AC members agreed on this.
- AKL: Take into account that different stakeholders have different economic basis, but it will not be possible to cover their costs for the Ifoam conference in Istanbul? AL: EC will not allow payment of working hours (PMs) for other than partners (and third parties) in the project.
- The leader for the AC (Deborah Brister) is not attending the meeting, and no one has heard from her. Ingrid will put effort to contact her

Sundalsøra, 5th of May,

Åsa Maria Espmark

OrAqua PMB meetings

Date: 27th May 2014

Location: Lync

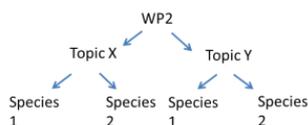
Author: Åsa Maria Espmark

Participants: Myriam Callier, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Nadarajah Sriskandarajah, Guiseppe Lembo, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. Round-the-table update:
 - a. WP7 (Ingrid)
 - i. Update on partner profile: according to PO an e-mail where the updates appear (new people added; people no longer active in the project removed) is sufficient. All partners should send an updated partner profile by e-mail to Ingrid
 - ii. We also asked the PO of how to upload new minutes to D7.1 as D7.1 is no longer pending in the Participant Portal (PP) – not clarified yet
 - iii. D1.2 is still pending. It had been unclear how to submit this deliverable since this is the website. We will “print screen” the website and make a short report of when finished, location, availability and upload to the PP as the D1.2
 - iv. Ingrid has submitted an abstract to EAS 2014 (invited to the organic session), presenting OrAqua. Ingrid will upload the abstract on SharePoint
 - v. M6 reporting 4th of July: 3 monthly WP reporting + M6 interim report (the same template as M18). A reminder with templates will be sent 16th of June
 - vi. 1st Newsletter is available both on SharePoint and website
 - vii. Organic days in Oslo – research and farmers. OrAqua will be presented (25th of September)
 - b. WP1 (Myriam)
 - i. Working on WP2
 - ii. Soon ready to upload literature on SharePoint
 - iii. Conference in Paris first in July – will present the project
 - c. WP2 (Wout)
 - i. SharePoint is working, and it is now possible to upload literature as soon as we have a structure
 - d. WP3 (Pirjo)
 - i. Bibliography finished in End-note, references to the regulations will be added
 - e. WP4 (Alfred)
 - i. Working on review nutrition

- ii. Important to organise SharePoint
 - iii. Submitted abstract to EAS 2014
 - f. WP5 (Sri)
 - i. Working on 1st stakeholder event
 - g. WP6 (Pino)
 - i. Have been in contact with IFOAM regarding stakeholder event
 - ii. IFOAM approves the agenda, final decision is made 28th of May
- 2. WP2 and 3 updates
 - a. WP2
 - i. Structure on SharePoint – differentiate review and fact sheet



- ii. Suggestion:
 - iii. Also make a general folder with a document listing all references to make it feasible to find literature that others may have found before, and to avoid double reviewing of some papers
 - iv. Structure of review: refer to and repeat from minutes from Amsterdam (Joined work-shop WP2 and 3: “*Format: 1) Introduction: Present regulations; 2) what have we found in WP 2 and 3; 3) recommendations to the regulations + knowledge gaps*”
 - v. Review for August – e.g. bullet points style since this is not final
 - b. WP3
 - i. WP3 will follow the same main structure on SharePoint as WP2, but different folders should be made for WP2 and 3 since the detailed structure differs. WP3 participants discuss and decide
 - ii. Have completed a preliminary review to be used in the survey
 - iii. Survey sent to WP3 participants + WP leaders for comments
 - iv. Contact with 3 sub-contractors for the survey
 - v. Survey completed in June
 - vi. Modelling is on track
- 3. Planning of Stakeholder event
 - a. Also see point 1g
 - b. When the final approval from IFOAM comes we have to start to invite stakeholders
 - c. Jean-Paul + Sri: Invite people from OrAqua consortium that should be involved in the organization of the event to a meeting in the beginning of June (Myriam informs Jean-Paul) – Agenda: decisions of stakeholders to invite
 - d. Sri and Magnus make a more detailed program; including times, location, accommodation, contributions from IFOAM etc (after receiving input from IFOAM)
 - e. Also make a list of who does what
 - f. Invitations to the stakeholders have to be sent during June

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- g. Preferably use the meeting check list made by Catherine Halbert (will send this to JP and Sri)
- 4. Other issues
 - a. Ingrid has made attempts to locate and contact Deborah Brister (Leader of the AC group), but has not succeeded. Pino will ask IFOAM where she is and if she still wants to be the AC leader. If not we have to find someone else, preferable from IFOAM EU group
 - b. Next Lync meeting: 19th of June 09.00

Sundalsøra, 28th of May,

Åsa Maria Espmark

OrAqua PMB meetings

Date: 19th June 2014

Location: Lync

Author: Åsa Maria Espmark

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Nadarajah Sriskandarajah, Magnus Ljung, Guisepe Lembo, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. Round-the-table update including WP2 and 3 updates
 - a. Ingrid: WP7
 - i. To submit Deliverables that continues throughout the project and therefore should not be closed is a technical matter and have been sorted out with the PO
 - ii. Reporting templates for M6 are sent with due date 4th of July
 - b. Jean Paul: WP1
 - i. Most of his work have been on Stakeholder event and will be dealt with in point nr 2
 - c. Wout: WP2
 - i. SharePoint folders and subfolders ready for use
 - ii. Also reference list to gather all literature is loaded on Sharepoint
 - d. Pirjo: WP3
 - i. SharePoint folders and subfolders ready for use
 - ii. Consumer survey ready – the company Ipsos will do the survey
 - iii. Economic model progressing – Henry wants an expert meeting at the stakeholder event. This should not be included in the program for the stakeholder event but rather organized prior to or after the event
 - e. Alfred: WP4
 - i. Review on nutrition in trout; Gerd Marit Berge from Nofima is doing the same for salmon. These two reviews will be merged and cover Salmonids
 - ii. Sufficient information for 1st stakeholder event OK, but work is still to be done
 - f. Sri and Magnus: WP5
 - i. Most of the work has been on Stakeholder event and will be dealt with in case nr 2
 - g. Pino: WP6
 - i. WP6 is still not active but Pino is involved in the organization of the Stakeholder event (point nr 2)
2. Stakeholder event:
 - a. Stakeholder list composed and validated by many people. Pino has suggested some participants that were discussed. How many participants per organization? Are we obliged to invite certain people from e.g. IFOAM?

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- i. Pino – Yes, they should all be invited because this was the intention from the beginning when IFOAM was asked to be a collaborator. This is expected from the IFOAM. Pino will send e-mail addresses to those who should be invited (from Pinos list) to JP
 - b. Invitations
 - i. Sri: Personalizing the invitations mean that it should be addressed to individuals and not to institutions
 - ii. One official invitation should be sent from one organization (OrAqua) and followed up by members of the consortium that knows these people – will increase the likelihood that they will accept the invitation
 - iii. JP will combine all received lists and suggestions and send out for comments on addresses
 - iv. Invitations sent at the end of June
 - v. In the invitation – include the newsletter and link to www.orgaua.eu
 - vi. Magnus will finish a draft of the invitation at the end of this week
 - vii. 20 persons from the consortium will be invited; Ingrid makes a first list of consortium participation. Participants from the consortium should be participants as all the other participants, but those with a specific role (e.g. follow ups) have to be aware of their role.
 - viii. AC group should be on the list and should be invited both to the event and to an AC meeting
 - ix. Magnus/Sri will have a discussion with all project partners attending to discuss their role
 - c. Responsibilities
 - i. Invitation - Magnus make the letter, Jean Paul send the invitations and collect he answers
 - ii. Logistics – have to be discussed with Pino. Magnus: also discuss with IFOAM, logistic requirements are listed by Sri and distributed by mail to all. It will be made a list of detailed needs during this summer.
 - iii. Documentation after the meeting – WP5/WP1
 - iv. Feap has some PM in OrAqua and may be used in this matter, JP contact them
 - d. Budget
 - i. Travel agency will organize the travel for individual participants including travel and accommodation. Each invited should contact this travel agency. JP organizes.
 - ii. Hotel – Pino asks local organizer what they can suggest. The accommodation should be close to the meeting arena
 - e. Logistics
 - i. Location/accommodations: Difficult to find a place that fulfils the requests by Sri. Pino will look for a suitable location, University may not be suitable and a location that fulfils all the requests may be expensive
 - ii. Pino will ask the University what is available of rooms and forward this information to Sri. Pino: Sri should provide a list of ranges of requirements, and what is the minimum.

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- f. Jean-Paul and Sri sum up their meeting with the involved OrAqua people and distribute by e-mail to all
- 3. Other issues
 - a. Approval of the meeting minutes from Amsterdam and Lync meeting 27th of May OK – Åsa will upload them as D7.1
 - b. Next meeting – test the system with JP, Pino, Sri before next meeting to make sure it works
- 4. Chair for advisory group
 - a. Deborah Brister is no longer coordinator of IFOAM aquaculture. We will therefore need a new chair of the AC.
 - b. Stefan Bergleiter – Naturland. Pino asks IFOAM if they want to propose Stefan, or whether IFOAM wants us to wait. This has to be clarified before the stakeholder event since we need a AC chairperson before the meeting, and before the invitation is sent for the meeting with AC in Istanbul.
- 5. New meeting:
 - a. Åsa send a doodle to PMB meeting in August.

Sundalsøra, 19th of June 2014

Åsa Maria Espmark

OrAqua PMB meetings

Date: 13th August 2014

Location: Lync

Author: Pirjo Honkanen, Ingrid Olesen (14:30-15:00).

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen (to 14:30 pm), Alfred Jokumsen, Nadarajah Sriskandarajah, Magnus Ljung, Guisepe Lembo, Ingrid Olesen

Agenda:

6. Approval of minutes from June:
 - Approved

7. Arrangements of the first stakeholder event
 - PO: Allowance to attend to the IFOAM conf. with 3 persons. Need to raise awareness of Oraqua: Give feedback from conf. to the consortium, e.g. through the newsletter. Pirjo cannot attend. Alfred may be able if nobody else wants to. Jean-Paul does not have the budget. Magnus attends anyway on other project budgets. We don't have to have 3 people. Ingrid will attend till Wednesday. Wout till Tuesday/Wednesday. Pino will be there for the conference till Wednesday.
 - o Wout, Ingrid and Pino travel to San Sebastian on Wednesday
 - o Discount for conference participation? Pino finds out
 - o Coverage to stay until Monday. Arrival on Friday.
 - Tickets: excel sheet.
 - o Some are travelling directly to San Sebastian: might be cheaper if the agency books all tickets. The costs have to be divided on OrAqua and some other project in that case. Jean-Paul will ask.
 - According to IFOAM web-site it is possible to register for our event on the Oraqua web-site and IFOAM site. None of them works. Pino asks IFOAM to arrange this.
 - Pino finds more info about the practical arrangements – cafeteria etc. extra costs for bringing the coffee etc. to the meeting room.
 - 49 positive stakeholders already + partners + AC – almost 80 participants. Second round of invitations? Await the result from the travel agency before we invite others or send a second round of invitations.
 - Dinner Saturday? Basic dinner for all stakeholders? No exclusive dinner.
 - Check list for the event was presented and discussed:
Meeting with all WP leaders Saturday morning, but Magnus, Sri, Jean Paul, Alfred and Wout will meet in Istanbul on Friday morning to check meeting location and required practical and technical equipment and logistics to make sure everything is in place and function before the event.
 - There is a need for secretary assistance and a local contact person during the event. Ingrid will contact FEAP (Courtney) about possible support by a secretary with experience from workshop arrangements from FEAP, and Pino will contact local organizers to appoint a local contact person that can assist in technical and practical support and trouble shooting.

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- Magnus will update the check list with input received at the meeting, including specification of personal responsibilities for all items and activities.
8. Next meeting
- There is a need for more frequent meetings now, so next meeting was set to 3rd September at 13:30.

OrAqua PMB meetings

Date: 12th September 2014

Location: Lync

Author: Åsa Maria Espmark

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Nadarajah Sriskandarajah, Guiseppe Lembo, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. Minutes from PMB meeting 13th of August 2014 – approval pending
 - a. approved
2. M6 report – approval pending
 - a. approved
3. Stakeholder event Istanbul
 - a. Sri went through the check list:
 - b. Most PMB arrive late Friday night to Istanbul. Jean Paul (and possibly Sri and Magnus) will visit the venue Friday to ensure everything is in place. PMB meeting Saturday morning at the hotel
 - c. The University has received the list and has promised to provide what is requested. Jean Paul contacts the University to see what they can provide or if we have to bring with us something. Pictures of the facility are needed. Jean Paul needs a contact person at the venue – Make contact between the representative of the travel agency in Istanbul and the representative from the university. Make them communicate about final arrangements and logistics, incl. sending pictures of the facility.
 - d. Participants: 53 accepted, 70 if everybody accept. 9 of these have accepted but have not contacted the travel agency. How do we get 80?
 - e. The PO has some suggestions of where we can advertise for people. Advertise through web sites (IFOAM, OrAqua) + contact people directly. The directed contacted people should contact JP immediately. If this last attempt does not succeed, save the money for the next events
 - f. JP: budget is so far estimated to approx. 70 000 Euro. This does not include pencils, paper etc. that we need for the actual meeting. Travel agency fee is included
 - g. JP will send the information of the event to the PO, the invitation has to be updated and remove the links that are not active. Sri will revise the invitation and send to PO within next week
 - h. Possibility to register to the meeting through IFOAM web site? Pino checks

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- i. Catherine Pons may help to prepare folders with program, letter, participation list, newsletter, writing paper, batch, pencil, evaluation form. Ask the Travel agency to print. Sri and JP discuss with Catherine how to organize
 - j. 1st of October: deadline for signing up
 - k. Detailed program is requested, bus transport, hotel etc. So far only flight information is given. Inform people that bus transport will be arranged
 - l. Prepare one mail to all participants with all the practical information + detailed agenda. JP will prepare this mail before Wednesday 17/9
 - m. Presentations: not scientific, related to regulations, relatively short (30 min), encourage to discussions
 - n. Focus group WP3, Henry will organize
 - o. Description of the event on the OrAqua homepage - JP follows up
 - p. Welcome session: IFOAM should do (Pino has asked them, they have not yet responded). Pino follows up. IFOAM representative also should attend the AC meeting and hence be the leader of the AC group
 - q. Meeting notes; Divide the minutes-taking between the OrAqua project participants, not the PMB group, select persons that are expert on the actual themes that are under debate
 - r. AC participation: need confirmation from them (except Anne Kristin Løes and Jimmy Young)
 - s. Reviewing the presentations: Sri and Magnus. Prepare the presentations before 1st of October; Sri and Magnus respond 6th
 - t. Upload the ppt's before the meeting, hand out hard copies of the presentations. We need access to a copy machine
 - u. Evaluation of the event + following up: Lync meeting after the event
 - v. Sri updates the check list with responsables and dates
 - w. Ingrid confirms Antonio Compagnoni (ICEA) on his request to add three more to the meeting
 - x. Register with reduced fee, we need a reference during registration to have the reduced fee. Ask Antonio Compagnoni for the reference
4. Progress WP2 and 3
- a. WP3 is in place
 - b. WP2: Wout updates on progress, has contacted the persons responsible for the missing parts
 - c. Report can be only partly written, since some contributions are missing
 - d. Planned meeting 15th of September between WP5 and Pirjo, Alfred and Wout. Alfred wants a common meeting to clarify what he should present. Should he present the reviews or should all WP leaders do it? They need coordinate the work. Common meeting Monday 15th, 14:00

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- e. Now, for those who have not delivered, make the review in bullet points, and do not put focus on fact sheets
 - f. Why are we so delayed? Lack of communication? Following up people
5. Other things
- a. Meeting Monday 15th on Lync, Pirjo invites (see also pkt 4d)
 - b. Quarterly report 3rd of October – Åsa sends out reminder and template
 - c. Next meeting:
 - i. 24th of September 0900 or
 - ii. 22nd September 0800

Sundalsøra, 12th of September 2014

Åsa Maria Espmark

OrAqua PMB meetings

Date: 24th September 2014

Location: Lync

Author: Åsa Maria Espmark

Participants: Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Magnus Ljung, Nadarajah Sriskandarajah, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. Minutes from PMB meeting 12th of September – approval pending
 - a. approved
2. Stakeholder event
 - a. Meeting 24th of October at 08:00 among OrAqua organizers. Magnus and Sri summarize the decided changes in the program. These changes will be distributed to the rest of the PMB
 - b. Participation list from JP: 76 are signed up until now (+ 2 according to Ingrid)
 - c. Budget from JP: looks good. Pino, Wout, Ingrid, Sri and Maria Teresa will have a reduced fee (50%), Ingrid makes the contact with IFOAM
 - d. Check list: Remaining actions on the list involve who take care of registrations and minute notes (contact Catherine) and logistics. Sri sends and updated check list with remaining actions and due dates.
3. WP2 progress (and WP3 if needed)
 - a. Missing parts WP2:
 - i. COISPA – sea bass and sea bream. Has COISPA prepared fact sheets that are not up-loaded on the SharePoint? Wout follows up
 - ii. SLU on ethics – Magnus follows up
 - b. Any contribution now is too late for the Stakeholder event, but is needed for the review. The review should concentrate on published literature on organic aquaculture, and not too much on conventional farming. However all things that are taken into account in the regulations need to be addressed. The review will be long since there are many issues and species, but need to have a summary specifically for decision makers and to give a brief overview.
 - c. Sea weed, shrimp and molluscs in WP2; very little information available
 - d. **Absolute deadline to include contributions to WP2: 1st of October (At least informative bullet points)**
4. Other matters

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- a. The timing of the GA and AC meetings will be switched, so what is written below is the correct:
 - b. General assembly Istanbul Sunday **12th of October 13:30 – 15:30**– agenda needed
 - c. AC meeting Istanbul **Sunday 12th of October 2014, 16.00 - 18.00**– agenda needed
 - d. Agenda for GA and AC sent 24th of September:
 - i. Activities since the kick-off meeting
 - ii. Evaluations of the Stakeholder event (experiences, what may be changed to the next event, practical challenges etc)
 - iii. Following-up actions from the Stakeholder event
 - iv. Future project work and plans
 - v. Other issues
 - e. AC group leader assigned? Pino up-dates
 - i. There is no more information of this matter
5. Next meetings
- a. Åsa sends Doodle
 - b. 9th of October? Decide on next PMB meeting
 - c. PMB meeting Istanbul Saturday 11th of October at breakfast 0800

Sundalsøra, 24th of September 2014

Åsa Maria Espmark

OrAqua PMB meetings

Date: 2nd of October 2014

Location: Lync

Author: Åsa Maria Espmark

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Nadarajah Sriskandarajah, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. Approval of meeting minutes from 24th of September
 - a. Approved
2. Stakeholder event
 - a. Check list sent to IFOAM
 - b. Some logistics are confirmed
 - c. Wiifi is taken away from the list and will not be offered during the meeting
 - d. Photographs of the room are asked for, when they arrive Sri will send them to the PMB group
 - e. Transport 20 minutes from the hotel to the meeting venue
 - f. Copy machine will be available
 - g. Catherine Pons (FEAP) have confirmed that she will assist in what we asked her (e.g. tags, handouts, registration, printing etc)
 - i. Decide the details on the tags (name and country)
 - h. Slides – should we hand out the hard copies?
 - i. Alfred will print the slides from his presentation before he leaves and brings them, and put them on the registration desk
 - ii. The presentations from Ingrid and Pino also as handouts, they also bring them to Istanbul
 - iii. Format: three slides per page with place for notes
 - i. Final participation list
 - i. Ask for people from the shellfish section
 - ii. The list have to be finalized within the end of this week
 - iii. JP will send the list to Catherine who will make the batches
 - j. Program
 - i. Sri and Magnus will provide a detailed version based on the inputs from the meeting (names and updated times)
 - ii. Ingrid asks Stefan Bergleiter to present “current challenges from the perspective of the stakeholders” (15 min)
 - iii. Important to give time for discussion, keep the time of presentations down
 - iv. 30 minutes for discussion – this have to be facilitated so the discussion starts. If discussion is not running ask Stefan if he may step in again. Maybe agree with someone to start

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- v. During Alfred presentation, after some slides he will make a break and invite for comments
 - vi. Draft opening questions from group work – Sri asks and informs chair and reporting people that have not yet been asked or confirmed
 - vii. If the asked people say no, ask them to suggest replacements
 - viii. Reporting persons will update in plenary the group discussions
 - ix. Long time between lunch and dinner – there should be something to eat in the break (14.30)
 - x. Day 2: formations of new groups that are different from those during day 1. Sri, Magnus and Jean Paul will form the groups for both day 1 and 2. Pre-decide composition of the groups but allow some flexibility if some stakeholders have special preference
 - xi. Pirjo wants a special group for WP3 issues
3. Other issues
- a. WP2 – no feedback from SLU (Helena). Contact her institute and ask why she does not respond. Wout asks Sri who he should contact
 - b. Sea bass and bream (COISPA) – still not delivered, and will not be ready before Istanbul. The person in charge will be away until Monday 6th.
 - c. AC leader – we will be provided a name during the stakeholder event. Two candidates exist but the final decision is not made
 - d. The invitation and agenda should be sent to the two candidates in time
 - e. JP will send travelling details
 - f. Friday night (10th) – dinner 20:00. Invite the whole OrAqua consortia
4. Next meeting
- a. Thursday 9th 08:00
 - b. Pirjo will take the minutes
 - c. Agenda: Updated program

Sunnalsøra, 2nd October 2014

Åsa Maria Espmark

OrAqua PMB meetings

Date: 9th of October 2014

Location: Lync

Author: Pirjo Honkanen

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Nadarajah Sriskandarajah, Ingrid Olesen, Magnus Ljung

Agenda:

1. Approval of meeting minutes from 2nd of October
 - a. Approved
2. Stakeholder event
 - a. Everything seems to be in place both logistics and practicalities. We have 3 rooms available plus the hallway. Sri oriented that the hallway might be noisy because there are other events going on, so it is possible that it cannot be used for the group discussions. We have one big room available, chairs for 80+ people and two smaller rooms for the group discussions
 - b. Henri Prins will organize small expert groups in order to get feedback for the economic model. Saturday evening and Sunday morning.
 - c. Magnus has developed the evaluations forms which are ok.
 - d. The recording documents have been sent out to people who will chair/record the roundtable discussions
 - e. We will start in the red room on Saturday
 - f. There are 10 university people to help us and 2 or 3 people from the local organisers. Technical assistance will also be present.
 - g. There will be transport from the airport to the hotel tomorrow, wand? taxis from the hotel to the University for Jean-Paul, Sri and Magnus on Friday afternoon. We will not have access to the rooms before 18.00 on Friday.
 - h. Jean-Paul informs the consortium partners of the dinner at the hotel on Friday and find out how many will attend. We meet at the lobby at 20.00
 - i. We should exchange mobile numbers. Wout will send an e-mail about this
 - j. Café discussions on Sunday will not have a chair, but the groups get one questions which they will discuss, and write their reflection on a flip chart. The questions will be prepared by Magnus and Sri on Saturday evening
 - k. Pino, Ingrid and Alfred will bring copies of their presentations to the event.
 - l. It was decided that we will allow brochures and other material that the stakeholders might bring with them in the room.
 - m. The folders will be prepared by Catherine Pons. We will not include the OrAqua newsletter in the folder. Ingrid includes the front page in her presentation, and we will print newsletter at the university if requested.

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- n. Ingrid will contact Pino about media presence at the IFOAM event and the possibility to send a press release through IFOAM just after the stakeholder event. Marie Louise Andersen from ICROFS will take pictures during the event. We can use those in the press release.
- 3. Other issues
 - a. We will not get the negotiated 50% discount on the conference fee. But those attending should get the group discount.
 - b. The electric plugs are the same in Turkey

Tromsø 10th October 2014

Pirjo Honkanen

OrAqua GA and AC combined meeting on October the 12th 2014 at 14:00 in Istanbul.

Participants: attached signed participation list for list of names

Minutes: Themis Altintzoglou

Presentation by Ingrid (Nofima; project coordinator)

Participation list was signed and the agenda was presented:

Agenda:

- Activities since kick off
- Evaluation of the stakeholder event
- Following up actions from stakeholder event
- Future project work and progress (time for next meeting etc.)
- Any other issues
 - no other issues were added in the agenda

Agenda was accepted

Activities since kick off meeting

Wout (DLO) presentation of progress in WP2 (see attached ppt for content)

Additional information and discussions:

The literature review is heavily focused on salmon due to much literature on this species and delayed deliveries about sea-bass and sea-bream by COISPA. Other species have limited literature due to smaller market shares and therefore reduced research funding.

Many factsheets on sea-bass and sea-bream were uploaded to sharepoint on Thursday just before the meeting.. A review is carried out on fish welfare, but lacking for the other topics. The group agreed that fact sheets is just a tool, but that our main work and deliverable is the review, so, each partner should deliver that review they are responsible for to Wout and Alfred.

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All topics need to be reviewed. However, for instance for nutrition, the review already carried out for salmonids may be updated to a review for all carnivorous fish. Alfred will send the review on nutrition for salmon and trout to COISPA and IFREMER such that they can fill in the results and information for seabass and seabream.

Wout will follow up with SLU and Helena Röcklinsberg on the missing part on ethical aspects.

When the seabass and seabream reviews are in place together with the review on carp and ethical analyses, the review will become more balanced with respect to species. Although many partners have uploaded their review reports in time, the agreed deadlines need to be more respected by several project partners and participants. This implies that when somebody sees that they cannot reach the deadline, the WP leader should be notified and a plan for reaching a new deadline should be proposed and agreed upon by the WP leader.

Each partner is responsible for specific topics and species (given in excel sheet sent to all WP2 partners and available at Sharepoint). The structure of the review reports was agreed on the WP2 workshop in Ijmuiden in April. For those who have not yet loaded their review reports for their topic and species, this should be done ASAP and latest by 26th October as Alfred has little time until the deadline for deliverable D4.1 in November.

There is a need to prepare a summary for the review as the report will be very long when review reports on all species and topics are included (>100 pages). It is the responsibility of each expert to review and summarise each field. For each species or group of species, and topic, the person responsible should prepare a summary and send to Wout and Alfred ASAP and latest by 26th October. Wout will propose a structure for the summary. Pino (COISPA) prepared a review for sea-bass and sea-bream on welfare, but only factsheets for the rest of the topics.

Wout referred to the need to restructure resources based on work done and work left to be done. So if the review reports are not delivered in time by the responsible partner, the resources allocated to their tasks need to be distributed to other partners that can do the work in the requested time.

In conclusion, Wout wants all WP2 partners with responsibilities on topics and species to send to him a summary as well as review on knowledge, gaps and recommendations. This would enable him to compile the review in an efficient way in time to be included in Deliverable 4.1 by Alfred.

Pirjo (Nofima) presents progress in WP3(see attached ppt for content)

Additional information and discussions:

WP3 partners will have a discussion about the structure of the deliverable report for m18 as it is for all tasks in WP3 and should be combined in one report.

Data collection in task 3.3 has already taken place but needs to be further developed.

Survey data will be analysed further, by Nofima to estimate effects of being informed, organic food purchaser etc. Much more in depth analyses will be presented in the final report and next general assembly.

Do consumers understand questions like “what are natural living conditions”? How come they do not understand the details?

Pirjo and Themis (Nofima) clarified what was done in terms of methods and explained the reasoning. Details about the survey design and going into details in the explanation of the data based on grouping variables and personality characteristics were explained. Jimmy (University of Stirling) added that the preliminary finding of wild being organic is consistent with the findings in literature.

Coffee break

Alfred (DTU) presents wp4 progress: (see attached ppt for content or presentation during the stakeholder event)

Additional information and discussions:

WP2 should stop collecting information and start summarising. The literature on organic aquaculture is limited, and therefore literature on conventional aquaculture is needed to support the reviews.

D.4.3 is planned for M23, but it should be earlier, in time for the second stakeholder event in M22. Information and results to be loaded on the OrAqua website was discussed.

General links to information on organic food and production and the principles, standards and regulations could be presented. However, rather than starting a communication campaign, we need to focus on what is needed to build a proper communication strategy. We do not want to risk losing consumers as a result of inappropriate communication. We need to identify the key issues and find what is needed to develop the actual communication etc., so that it can be more focused and targeted. It needs to be developed after our results show the key areas.

ICROFS has found videos of for example recirculation systems on organic farms. There is a need for some scientifically based information about the advantages of organic aquaculture in practice. There is a lot of information that may be considered in WP1 for publishing on the website.

The deliverable 4.1 of M11 needs more work, so, cannot be published yet. It should be accessible for the partners only at this stage. A popular version may be included in the next newsletter including photos together with results from the stakeholder event to maintain the dialogue with the stakeholders.

Some information can go to the EAS journal, at an appropriate level of details.

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We can have two types of reports; one for internal use and one for the public. So the challenges raised can be published. We can also prepare a press release with relevant information and disseminate through many available journals and raise awareness?

Concerns about applying terrestrial rules on marine aquaculture were expressed as it is not easy. The same wild and farmed fish species exist, so consumers cannot tell the difference.

In this phase, we cannot deliver and publish recommendations and guidelines on the website. Now, we mainly give and receive information about organic aquaculture. To conclude we may inform or explain what organic is in terms of basic principles, current standards, regulations and practises. However, further communication campaigning will have to await further studies and analyses in the project.

Evaluation of the stakeholder event

Magnus (SLU): A quick look over the evaluation questionnaires shows some tendencies: The event was both found poor and excellent in improving the knowledge on the current regulatory framework. Some thought it was too simple information while others the opposite; that the info was too complex. Many participants were happy with identifying the challenges of organic aquaculture. There were different opinions about the participants possibilities to suggest improvements to EU regulatory framework. Organisation and structure was positively rated, but information exchange was not top rated and dialogues within groups were criticized for **specific groups**.

Some stakeholders wanted to have material in advance in order to be better prepared for the event.

Soon we will have the complete resulting statistics of the evaluation from Magnus.

Some people wanted to make their point but there was not enough time for all contributions during the event.

Following up actions for the next stakeholder event

Magnus (SLU): The next event will be different due to the MCDA, but it is important to find a good balance between the MCDA and a more open communication.

It will be important to retain the climate of communication in which we invested this time, without losing enthusiasm by putting the MCDA in the middle. It is also important to avoid stopping the dynamics of the group (people working in their computers and losing the flow of the process).

Information material should be provided one week before like a news-letter. Pino (COISPA): but generally no one reads that.

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The MCDA related part creates the need to for a different structure for the second stakeholder meeting. So, recruitment should aim at more even representation of different stakeholder groups to avoid biased results of the MCDA. We will need more time to allow all stakeholders to make their points during the next event.

We can combine with the WP2 workshop in Czech in March to have a pre-test on ourselves, using the MCDA to get a clearer idea about it.

Anyhow MCDA will be more specific and quantitative method to get a better quantitative evaluation to include in a recommendation, to supplement the general ideas and impressions we've got from stakeholders' input at this first event.

One option for the next meeting could be to have fewer monologs and more dialogs by reducing the presentations and increase the space for the interactive parts and questions. Part of the monolog presentations could be provided as hand-outs the stakeholders received. Part of the description of work planned for future stakeholder events is not needed to be presented in earlier events and probably will be forgotten until next time anyhow.

Magnus and Sri will have the responsibility to summarise the information and the rest of us can provide feedback.

Future project work and progress

The **next stakeholder meeting** will be on 19 and 20 October 2015 in Rotterdam, prior to the EAS conference starting 21st October 2015. It will be a longer meeting than the first event to accommodate the MCDA and allow for more discussions with the stakeholders. Sri wants to know more in order to prepare for the MCDA part. However, Rotterdam is more expensive and two extra nights will increase the costs out of budget allowances. DTU by Alfred will take responsibility for arrangements of the second stakeholder event as the budget is allocated to DTU. Ifremer by Jean Paul is responsible for the stakeholder platform, and providing the list of participants that can be invited. For the MCDA survey effort will be made to invite representative stakeholders

The date for the second **wp2 workshop** 24-26 of March 2015, in Czech Republic will be hosted by Zdeněk Adámek (USB). It will be combined with a meeting to explain and test the MCDA; it should be only for partners that are related to most parts of both tasks. Zdeněk (USB) will organise all practicalities about the meeting for about 15-20 people, including Travel and accommodation costs will be covered by the participants themselves. Lunch and refreshments will be covered by Zdeněk (but not from Zdeněk's budget). The WP2 workshop needs one day, as the MCDA is asking for at least half day, preferably one; there will be a need for a two- day meeting. Those that cannot be present can have the opportunity to participate to the meeting via skype.

Next **Project management board meeting** will be a Lync meeting on the 27th October 2014 at 9:00.

Input from Advisory Board

Stephan (Naturland) was not yet familiar with the DoW as he was appointed by the IFOAM board the day before. Hence, he can give comments later after the meeting.

Jimmy Young (University of Stirling) emailed the comments below, the evening after the meeting:

"Hi,

Below are my comments for incorporation within the minutes of the First Stakeholder event held 11-12 Oct 2014 in Istanbul.

Regards

Jimmy

Stakeholder Engagement

~ The sample of stakeholders appeared good in terms of number and quality judging from the contributions made.

~ Future meetings might attempt to ensure the continued involvement of the more innovative actors along the value chain in order to capture potentially better quality responses.

~ Whilst the potential problem of free-rider participants appears to have been avoided it is important to ensure that screening is maintained to ensure high calibre interactions.

~ The difficulty of ensuring a representative sample of all 'high end' actors is recognised and the approach of linking meetings to events with coincident sectoral appeals seems to work.

Information Provision

~ Improvements to accessibility of information prior to meetings should be made. This would increase the opportunity, although not necessarily the undertaking, to prepare for discussions in advance.

~ In some instances closer attention to the detail of planned meeting schedules and related travel arrangements might be made. Whilst inherent difficulties are acknowledged, failure to attend to such matters is likely to diminish the contributions of participants.

~ In compliance with the above, it should be noted that the planned meeting for July 2016 should attempt to avoid the 11-16th July as this will clash with the forthcoming Biennial Conference of the International Institute of Fisheries Economics & Trade (IIFET) which draws, inter alia, aquaculture academics and practitioners.

Advisory Board (AB) Participation

~ The opportunity for AB members to observe and participate throughout the project meetings was appreciated and enabled a more insightful foundation for apposite comments. The experience of Istanbul is in some contrast to the more selective attendance permitted at the Ijmuiden meeting which did not leave some AB members feeling that their time had been spent most efficiently. Whilst it is recognised that Project Partners may wish to discuss matters without observation of the AB, this presumably can be achieved within a much more specific window.

~ The formulation of the AB's own structure appears to have been exogenous, possibly determined by the PMC, rather than through a process of internal discussion amongst AB members. This might be regarded as somewhat curious and not necessarily the most conducive means to encouraging constructive contributions from the Board's membership.

Progress of Oraqua

~ In general it appears that the project is adhering to the planned timetable and one can be confident of the quality of the research being undertaken. There are however some indications that the potential for some drift of deliverables exists not least when more specific interdisciplinary issues are debated.

~ In some sessions a greater consideration of the need for more efficient and effective chairing of meetings might be made to ensure that agreed agenda are adhered to.

~ As the project progresses it is likely that there will be an increasing need for recognition of its own inherent constraints. Oraqua did not set out to be, nor can it hope to become, a panacea for all the 'challenges' of organic aquaculture. Recognition of these limits, through more tightly defined discussion topics, might help to achieve a clearer focus and lessen the risk that it is perceived to attempt accomplishment of too much.

~ At times there was an evident frustration amongst stakeholders that topics were perceived as being given too little attention or were not treated with sufficiently high regard. Clearer exposition of the (justifiable) constraints of Oraqua might be made to countermand any such accusation.

~ In conclusion, congratulations are due to the PI, PMC and related participants for delivery of an innovative and valuable foray into organic aquaculture research."

OrAqua PMB meetings

Date: 27nd of October 2014

Location: Lync

Author: Åsa Maria Espmark

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Nadarajah Sriskandarajah, Magnus Ljung, Giuseppe Lembo, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. Approval of meeting minutes from 9th of October
 - a. approved
2. Discuss minutes from GA/AC meeting Istanbul before sending for approval to GA/AC
 - a. Minutes are sent to the GA/AC members that were present in Istanbul. Jimmy Young has replied positively
 - b. Åsa: update the minutes with information of MCDA during the 2nd stakeholder event. MCDA survey will be addressed half a day in Czech Republic March 2015 (wp2 work shop). Also at the Rotterdam meeting stakeholders that are specified on the issues that will be raised in the MCDA have to be invited
 - c. Åsa will load the GA/AC minutes on SharePoint.
 - d. Combined meeting GA/AC saved some time in Istanbul
3. Wrapping up stakeholder event from Istanbul – evaluation forms
 - a. Magnus summarize the evaluation that was already sent out to the PMB group
 - b. Much positive feedback. Among negative feedback was too little information before the meeting. Stakeholders that represent an organization need time to discuss the program and provided information with their organization before they attend. A few people were disappointed about that some people took too big place and that not all people were heard. Many groups in the same room created noise, so at the next event we need more rooms and maybe smaller groups. Some participants think that some of the round table discussions were not led properly (too directive) and some participants took too much of the available time for exchanges during plenary. It was discussed of using methods allowing contribution of all participants (post it) at the next meeting.
 - c. Less than half of the participants answered the evaluation form, should we e-mail the rest? Maybe not; not representative to compare evaluations that comes 2 weeks after the event with the ones that comes immediately after the meeting
 - d. Improvement to the next event; evaluation form scores poor in “clearly identified the challenges to organic aquaculture”
 - e. Before the next event – finalize the program at least one month before the event and send out, more time at the event to write down key words on post-it notes
 - f. 80 participants are too many, but this is predecided. The 2nd event requires this amount because of the MCDA. The limitation for large amount of participants is the venue, not the people. Also make sure that the stakeholders are well represented.

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- g. Out puts from the thematic group discussions will be used in the reviews and in the recommendations for the EU commission regarding regulations
- 4. Starting the planning of 2nd stakeholder event Rotterdam – Alfred informs
 - a. 19-20th of October 2015, before EAS conference in Rotterdam
 - b. Mario Steel and Alistair Lane are contacted and planning has started
 - c. Accommodation and meeting in the same place
 - d. Alfred wants the accounts from Jean Paul after Istanbul to have an idea how much the next event will cost. Costs for 80 persons in Rotterdam will be too expensive. Alfred is afraid that Rotterdam will be too expensive and that we will have to find another place.
 - e. Meeting will be from Monday morning to Tuesday after noon (2-3 nights). Rotterdam is 30-45 minutes by train from Amsterdam and it should be possible for attendances to arrive Monday morning
 - f. Necessary information for the MCDA survey will be sent to the participants sufficient time before the meeting
 - g. MCDA will need one half day, the meeting in total cannot be so much longer that the Istanbul meeting (despite the request from people of a longer meeting)
 - h. Travel agency fee for Istanbul event: 10 Euro per person. JP will ask if we can use them for Rotterdam
 - i. Further actions. Alfred should have a meeting with Jean Paul, Sri, Magnus and Pino to start planning the MCDA. Meeting in December
- 5. How to proceed with review WP2 and 3
 - a. All input for WP2 review is in place, including ethics from SLU. Wout will finalize a draft for the review
 - b. Nutrition sea bass/beam also ready from Pino
 - c. Input from Istanbul will be incorporated into the review
 - d. Alfred: doing the same job as Wout for the report in WP4. Wout`s part is due in M18, he can wait for Alfred to finish and use that information. WP2 review should have a summary and recommendations and input from Stakeholder events.
 - e. Proposal from Pino: make documents of the different topics and circulate, include the different species and clarify where differences and similarities.
 - f. WP3: A review draft is ready. Input from Stakeholder event will be included.
 - g. Economics: data were collected at the Istanbul meeting and wp3 works on a model
- 6. Other issues
 - a. Ifoam OWC workshop in Istanbul, with discussion of RAS: What is sustainable is not necessarily organic (but what is organic should be sustainable). Regulations should be feasible
 - b. Sea bass and sea bream challenges; work shop in San Sebastian. Get input from this work shop from someone who attended (e.g. Courtney)
 - c. Get information from German project of an organic survey, poster in Istanbul and presentation in San Sebastian
 - d. An organic session also in EAS Rotterdam
 - e. New PO; Marta Iglesias
 - f. Next meeting: Friday 28th of November @ 09:00

Sunndalsøra, 27th of October 2014

Åsa Maria Espmark

OrAqua PMB meetings

Date: 3rd of December 2014

Location: Lync

Author: Åsa Maria Espmark

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Nadarajah Sriskandarajah, Magnus Ljung, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. Approval of meeting minutes from 27th of October
 - a. approved
2. WP updates – around the table
 - a. WP1
 - i. Web-site about to be changed. One open site and one restricted with user name and pass word. The change is not completed
 - ii. When completed Jean Paul will inform the stakeholders that it is available and how to access
 - iii. The EU logo has to be published on the website + acknowledgement
 - iv. Newsletter nr 2 finalised before new year
 - v. Evaluation from the platform meeting, get more response. How can we improve the design of the next? We need to prepare material before the next meeting that we can distribute.
 - vi. Discussion of who is responsible to incorporate OrAqua recommendations to the new regulations (not OrAqua).
 - b. WP2
 - i. Ethics (Helena) is delivered
 - ii. Wout is working on the review and will contact partners for comments and contributions
 - c. WP3
 - i. Working with finalising the review
 - ii. SWOT analyses will be ready in January
 - iii. Survey is progressing
 - iv. Model analyses finished in December
 - d. WP4

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- i. Delivered D4.1
 - ii. DoW milestone 6 in WP4 (due M15), should this be provided by WP4 or 5? This will be addressed in D5.3
 - e. WP5
 - i. Delivered D5.2
 - ii. D5.3 – feedback from event will be further analysed (e.g. how to include stakeholders in between the events, how should we use the comments from the stakeholders, answer their questions).
 - iii. Make D4.1 and D5.2 available for the other stakeholders by publishing it on the protected web-site
 - iv. Magnus: Send a mail to all partners that D4.1 and D5.2 are available at SharePoint
 - f. WP6
 - i. Pino was not attending
 - g. WP7
 - i. Coaching with Cathering Halbert
 - ii. Catherine: M6 was not too good, adjust the website
 - iii. Worked with D4.1 and D5.2
 - iv. Ingrid invited to “Sustainable agriculture in Horizon 2020”. Ingrid will ask for input.
- 3. Reporting and actions on the Participant Portal (Åsa)
 - a. Quarterly M12 – due 15. January 2015
 - b. 6 months M12 report – due 15. January 2015
 - i. Åsa will send the M6 report and ask partners to use this as a template. Also update the M6 report with more details
 - ii. M12: all WP leaders have to put in their own contributions in **Management 3.2.3**
 - iii. Åsa will add Catherine’s guidelines in the template or send the guidelines from PP (if they exist)
 - c. M18 report – due 31. August 2015 (to the Project office)
 - i. M18 has to be ready before 15. July because of summer holiday at different times in Europe
 - ii. Åsa will ask for input within 1st of May – by them all WP leaders must have collected information from their co-workers. Your dates for feedback will be 1/5 (first draft) 15/5 and 15/6
 - iii. After M18 we might be ordered to be evaluated externally, Already now you should think of external reviewers (people who knows organic aquaculture and EU)
 - iv. M18 will include form C (financials)
 - d. Participant Portal (<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>)
 - i. Ingrid and Åsa will up-load all Deliverables
 - ii. You have to up-load Disseminations (presentations, posters, publications etc)
 - 1. Log in
 - 2. My projects
 - 3. Purple RD (reporting & Deliverables)
 - 4. Dissemination Activities
 - e. Deliverables

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- i. Internal deadline – 2 weeks prior to due date is necessary for Ingrid and Åsa to be able to read it through and comment
 - ii. All final Deliverables have to contain of one document; so all attachments have to be incorporated into the same document as the Deliverable (however during the review process there may be separate files)
- 4. Financial issues (Ingrid)
 - a. Travel budget is very low and already over spent
 - b. Propose to PO to split the left-overs from 1st stakeholder event between travels and 2nd stakeholder. Wait with finalising the amounts before we know how big the left-over from the event is.
 - c. Ingrid has a detailed budget that she will send to PMB (needs approval from controller)
 - d. Suggestions to improve budget for 2nd stakeholder meeting (to be considered)
 - i. Participants pay for their flight tickets
 - ii. A register deadline. OrAqua pays for the “early birds” and the late attendees have to pay by themselves.
 - iii. Those who sign up but don’t show up should have to pay some part.
 - iv. Allocate one amount per person and then they have to cover the rest themselves
- 5. Other issues
 - a. Alfred – Regarding point 4i from meeting minutes 27th of October: meeting with Pino, Magnus, Sri, Jean Paul (planning of 2nd stakeholder meeting) should be early January; just prior to the next PMB meeting.
 - b. Next PMB meeting: 23rd of January 0900

Sunnalsøra, 3rd of December 2014

Åsa Maria Espmark

OrAqua PMB meetings

Date: 23rd of January 2015

Location: Lync

Author: Åsa Maria Espmark

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Nadarajah Sriskandarajah, Magnus Ljung, Guiseppe Lembo, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. Approval of meeting minutes from 3rd of December 2014 (attached to the meeting invitation)
 - a. approved
2. Up-dated web site + next newsletter
 - a. See point 6b. The next news-letter should be ready in the middle of February 2015 (see e-mail sent to all from Marie-Louise Krejsler via Ingrid 23/1-15)
3. Reflexions from Istanbul – mail from Francois Simard (FS) 22.12.2014
 - a. Ingrid summarizes the letter from Simard
 - b. Discussion: The letter is confusing and his proposal is outside the OrAqua mandate, as we will not go through all criteria for organic production. The project will keep to the original Ifoam and EU framework and make recommendations from that. Concerning WP3, FS is correct since the consumer perceptions will not be so clear that we can use them for recommending revisions of the regulations. Realistic implementation of the regulations will be taken into account. The project will consider and discuss regulations, in relation to the framework given by the basic organic principles and the aquaculture reality.
 - c. Ingrid will reply to Francois Simard, based on the discussion from the PMB meeting. Ingrid will send the letter to PMB before she sends it to FS.
4. Information from Pino (see mail 11.12.2014 from Pino)
 - a. Information from Pino on the new regulations (to be completed summer 2016)
 - b. We should take the new regulations into consideration, especially in WP 2 and 3 (to some extent they are already implemented into these WPs)
 - c. IFAOM meeting in London the coming days. They will prepare a list of key issues that they would like OrAqua to analyse
 - d. It is important that we follow this up and try to avoid that the new regulations will not be able to implement.

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- e. OrAqua should inform the stakeholders of the new suggested regulations and the amendments by putting them on the open web-site. The stakeholders have already been able to send their feed back concerning the last platform meeting.
 - f. Pino sends the last version of the new regulations to Jean Paul for up-loading in the web-site
5. Work-shop in Vodnany March 2015
- a. Number of participants for the MCDA testing: All WP`s should be present. WP 3 will try to participate via Lync.
 - b. Wout will be involved in preparing the agenda
 - c. A list of logistic requirement questions from Zdenek will be answered
 - d. All partner leaders should tell whom from their organization they will send
 - e. Agenda:
 - i. Two full working days (24th and 25th)
 - 1. Arrive 23rd evening
 - 2. Departure 26th morning
 - ii. WP 2 needs the first morning. The first version of the draft was done before Christmas, new versions of welfare and nutrition is available, the other chapters need to be updated. In Vodnany all four chapters should be discussed. The most recent document will be sent to the PMB one week before the meeting.
 - iii. WP 3 will also have an almost complete document by then. The participants at the work-shop will have access to this document
 - iv. Detailed agenda:

Date	time	Activity				
23rd		Arrival + facility visit?				
24th						
	08:30	Welcome and introduction				
	08:45	WP2 (incl break) (Wout)				
	13:00	Lunch				
	14:00	MCDA Introduction (Pino)				
	15:00 - 18:00	MCDA test (incl break) (Pino and Magnus?)				
25th	08:30	Results of MCDA (Pino)				
	09:30	WP4: Planning of second stakeholder event (Alfred)				
	11:00	New regulations (Pino)				
	12:30	Lunch				
	13:30	PMB meeting				
	15:30	Closure and goodbye				

- 6. WP updates with completed action points since minutes from 3rd of December

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- a. Åsa/Ingrid (WP7) – M12 6 monthly report is in progress. The quarterly report should contain ALL Deliverables in the project and give a progress report. Ingrid will post COFASP foresight study on the SharePoint
 - b. Jean Paul (WP1) – a restricted site on the www.oraqua.eu is operating. What documents do we put here and on the public? Approved Deliverables should be posted on the open site. D5.3 on the restricted site even if not yet approved. It is important to keep the dialog with the stakeholders until the next event. Ask for their input on the regulations. Post summary from the 1st stakeholder event (parts of D4.1 with summary and recommendations). Jean-Paul send E-mail to the stakeholders with information what they may find on the web-site.
 - c. Wout (WP2) – see point 5e
 - d. Pirjo (WP3) – modelling in progress. New contributor; Ingrid Kvalvik will assist Otto.
 - e. Alfred (WP4) – worked on MCDA since January together with WP1, 5 and 6
 - i. 2nd event: financing; should we have some self-financing? We should try to avoid self-financing, and keep to the budget. Invited stakeholders should get travel costs covered, but also open for others if they pay by themselves. EAS coordinators mean that the budget for our event will be OK
 - f. Pino (WP6) – nothing new to report
7. Other issues
- a. Next meeting: Two options since Magnus and Sri were absent when scheduling
 - i. Option 1: 11th March 0900 (or any other time this day, Åsa check with Magnus and Sri)
 - ii. Option 2: 10th March 14.15 – 15.15

Sundalsøra, 23rd of January 2015

Åsa Maria Espmark

OrAqua PMB meetings

Date: 11th of March 2015

Location: Lync

Author: Åsa Maria Espmark

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Magnus Ljung, Guiseppo Lembo, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. Approval of meeting minutes from 23th of January
 - a. Decision: Approved with adjustments from Alfred, Ingrid, Wout and Jean Paul
2. Work-shop Vodnany – we agree on a final agenda
 - a. Decision: a final agenda was presented after input from the PMB. The agenda will be announced before the meeting in Vodnany
 - b. The organizer requested for information of when videoconferencing was necessary.
 - i. Video should be available the whole day 1
 - ii. Wout will make the WP2 work-shop more detailed to make it easier for external participation.
 - iii. Video will also be used for the MCDA information and testing. External people, who wants to participate in the MCDA survey, are requested to send their e-mail to Pino in order to obtain a password. Pirjo will invite WP3 partners, and Åsa will invite the others. Information will also be given on when they need to participate
 - iv. Invitation will also be sent to participants in WP2
 - v. Pirjo will participate in the PMB meeting via video
 - vi. An invitation will be sent to a number of OrAqua partners that will not attend the meeting physically
3. PMB meeting Vodnany – suggested agenda will be announced:
 - a. Suggested Agenda from Åsa:

1.	Approval of meeting minutes from 11th of March 2015.								
2.	Reporting 2015, including M18 Technical reporting (Åsa).								
3.	WP updates, with special emphasize on:								
	2 nd stakeholder meeting Rotterdam 2015 (Check list, logistics, invitations, hand out materials, other when-to-do-what etc).								
	MCDA (incl. logistics, wifi, answers on IT etc)								
	WP2 and 3 review status								
4.	Other issues								

4. Other issues

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- a. Announcement from Ingrid: Due to extreme work-load, Ingrid would like to ask the PMB if they accept that the role as a project coordinator is taken over by Åsa. In that case, Åsa will act as coordinator and project manager. Financial officer in Nofima will still be Anne Risbråthe. Ingrid will continue to participate in the project and in the PMB group. If this is acceptable for the PMB group, Ingrid will start the process with the PO to make the change official.
 - i. Decision: accepted by the PMB group. Ingrid will proceed with the PO
 - ii. PO will also be informed about the WP2 leadership change from Marnix to Wout
- b. The PMB group started a discussion related to what and how to inform stakeholder in Istanbul, and recommendations based on science, perception, ethics etc. This is an important discussion that we need to continue in Vodnany; either during the MCDA sections or during the PMB meeting (or both).
- c. 3 month reporting is due in the beginning of April. Åsa will send out information

Sundalsøra, 11th of March 2015

Åsa Maria Espmark

OrAqua PMB meetings

Date: 25th March 2015

Location: Vodnany

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen (from Tromsø via video)), Alfred Jokumsen, Magnus Ljung, Guiseppa Lembo, Maria Teresa Spedicato, Ingrid Olesen, Åsa Maria Espmark

Agenda:

- a. Approval of meeting minutes from meeting 11th of March 2015
 - a. Approved
- b. Reporting 2015, including Technical report (M18) (Åsa)
 - a. Åsa informs about all reporting in 2015
- c. 2nd stakeholder event Rotterdam 2015 (Check-list, logistics, invitations, hand-out material, other when-to-do-what etc) (Alfred)
 - a. Check list handed out
 - b. Invite people to Sunday – no dinner
 - c. Invitation letter has to be sent before 1st of May, include last Newsletter, summary of reviews, feed-back from the 1st stakeholder event, scope of the event, what we expect from the stakeholders
 - d. Ask them to confirm before 1st of June
 - e. 17th of April finalize the group work of finding the balance between stakeholder groups; end of April, finalize the stakeholder list
 - f. If important stakeholders cannot participate, can they still do the MCDA? Pino will evaluate the possibility
 - g. Not have a reserve list. Invite 80 stakeholders and only those (Including participants from the consortium)
 - h. Flight tickets: Should we say that those who cancel after signing up have to pay for their tickets on their own? No, better to contact travel agency and ask for travel insurance. Make the stakeholders understand that if they sign up it is important that they come
 - i. Insurance for the hotel – not possible
 - j. Do we need more rooms than the plenary room – Not that necessary, according to Magnus
 - k. Send before the event: information of MCDA, the reviews will be available on the website
 - l. Ingrid invites the PO and AC members to the event
 - m. Involve the stakeholders more, by asking some of them to give a presentation
 - n. Panel discussions with stakeholders in the panel?

OrAqua PMB meetings

Date and time: 14th April 2015, 08:00 – 10:00

Location: Lync

Author: Åsa Maria Espmark

Participants: Jean Paul Blancheton, Wout Abbink, Pirjo Honkanen, Alfred Jokumsen, Nadarajah Sriskandarajah, Magnus Ljung (leaving 08.30), Guiseppe Lembo, Ingrid Olesen, Åsa Maria Espmark

Agenda:

1. Approval of meeting minutes Vodnany, 24-25. March 2015 (PMB + WP2)
 - a. Approved
2. 2nd Stakeholder event
 - a. Check list (Alfred)
 - i. Meeting venue: best to keep the NH Atlanta hotel (this will keep people in the hotel all time, and allow them to go to their rooms or elsewhere to do the MCDA)
 - ii. Do we need the small meeting rooms at the hotel? It is good to have the flexibility. Possible to book half day (450 Euro for half day). Alfred investigates the possibilities, and we decide soon if we need extra rooms.
 - iii. Cancellation fee: maybe skip the insurance since few will cancel because of illness. Most cancellations may be due to other meetings; it was discussed whether we shall ask for an economic compensation in case of cancellations besides illness. Will this claim make people skeptical to assign? How do the PO evaluate this? If we don't include a compensation we may experience that we do not meet the expectations of 80 persons. Most PMB do not want a cancellation fee.
 - iv. Registration form sent out by Alfred is OK
 - v. Contact with EAS: we are advertising the EAS conference on our invitation. A request to Alistair Lane about a reduced registration fee to the EAS conference

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- for the stakeholders was sent. EAS cannot offer a reduced fee, but they encourage the participants to register before 15th of July (Early bird registration)
- b. Program (Magnus)
 - i. A first draft was presented by Magnus
 - ii. AC/GA meeting may be held after end of day 2
 - iii. WP2 and 3 should not be presented in detail before the MCDA, this may influence the results. On the other side, the stakeholders may expect to be given necessary information so that they feel that they are capable of answering the survey.
 - iv. The timing of an eventual presentation will be discussed further
 - v. Panel discussion – move it to the end of the event? Pros and contras for this was discussed
 - vi. The format of the MCDA was discuss; is it too comprehensive? Pino is working with the survey taken into account the comments from Vodnany
 - vii. Magnus and Sri will come up with a version nr 2 of the program based on the input from PMB, and send out to PMB as soon as possible.
 - c. Status invitation letter to stakeholders
 - i. Invitation should be sent out 1st of May to the stakeholders.
 - ii. After input from PMB Alfred will send out a new version.
 - d. Status group work on balancing stakeholder groups (due 17. April)
 - i. Some stakeholder groups are overrepresented, and others are underrepresented. Pino will send a list so that the working group can work on the balance
 - ii. Jean Paul will end the list to the working group and expects answer latest Friday
 - iii. The complete stakeholder list will be ready before 1st of May
3. Author list WP 2 and 3 review
- a. EAS abstract WP2 – 15 minutes not enough time to include the whole review
 - b. Author lists for review and abstract are not the same
 - c. Wout will make a suggestion that he sends to PMB. One possibility is to cover welfare, with an organic perspective, as a topic for the EAS.
 - d. Abstract: One representative per partner that have contributed to the review, let the partners decide whom from their organization they want to include.
 - e. Review: include all contributors. Form the review as a book (Editors and the contributing people at every task).
4. Other issues
- a. From PMB minutes in Vodnany: “The PMB members are requested to go to their countries representatives of the associations to give their feedback on the five most important issues to be handled by the regulations”.
 - i. In Vodnany Pino made the list of who makes contact with the different countries:
 - o Pino (Italy, Greece, UK)
 - o Jean Paul (France, Spain)
 - o Alfred (Sweden, Finland, Denmark):
 - Finland has returned, cf. below.
 - Competition from Norwegian salmon

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- Environmental regulation aspects (organic ctr. Conventional?)
 - Are organic fish more healthy to humans than conventional?
 - How secure animal health and welfare taking limitations in medical treatments into consideration
 - Wout (Nederland, Belgium)
 - Ingrid (Norway)
 - Mail sent to FHF (The Norwegian Seafood Research Fund), not yet response
 - Zdenek (central eastern Countries).
- b. New meeting:
- i. Åsa sends a Doodle with meeting suggestions between 1st of May – 1st of June

Sundalsøra, 14th of April, 2015

Åsa Maria Espmark

OrAqua PMB meetings

Date: 26th May 2015; 09:00 – 10:30

Location: Lync

Author: Åsa Maria Espmark

Participants: Jean Paul Blancheton, Wout Abbink (until 10:00), Pirjo Honkanen, Alfred Jokumsen, Nadarajah Sriskandarajah (until 10:00), Guisepe Lembo.

Absent: Ingrid Olesen, Magnus Ljung (did not manage to connect due to IT problems)

Agenda:

1. Approval of meeting minutes 14th of April

Decision: Approved

2. 2nd stakeholder event

- i. Reminder to sign up will be sent 26th of May
- ii. After 1st of June, go through the list in order to fill up from 2nd priority list
- iii. Extra nights in the hotel Atlanta – pay in advance 115 Euro per night; 30 rooms are pre-booked for extra nights (the hotel will contact the persons in question based on the registration forms).

- b. Check list

- i. Alfred inform the GA of the GA/AC meeting after the event
- ii. Sunday night before the event, dinner for the consortium? – dinner invitation together with the agenda approx. 30 days prior to the meeting
- iii. 16th of October 0900:11:00, last Lync meeting before the event
- iv. Magnus/Sri: contact Catherine Pons (FEAP) – ask her to prepare the name badges, papers and be in charge of registration, list for signatures of showing up of participants etc for the meeting

- c. Program

- i. Full program is not received
- ii. By the end of this week Sri promised, that we would have an updated version of the full program
- iii. Contributions from the consortium at the event:
 1. Istanbul event evaluation – too much science
 2. Suggestion from Alfred – clear overview of the state-of-the-art, not too much science
 3. Let the stakeholder and their challenges be in focus

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4. All PMB – ASAP; send to Alfred the answers from the requested survey: *“The PMB members are requested to go to their countries representatives of the associations to give their feedback on the five most important issues to be handled by the regulations”* (quote from minutes 14th of April).
 - Approved suggestion by Alfred after the PMB meeting (27th May): *“The PMB members send to me latest Friday morning (29/5) answers from representatives of associations and others the most important issues suggested to be handled by the regulations on organic aquaculture. I have (as well as you) already received from Jean-Paul and Åsa. I have forgotten if I have received from others earlier after the meeting in Vodnany, where we decided to make the survey, cf. minutes from PMB meeting 14th April. So, please re-send in that case. I will put all the received key issues together in one file and distribute to all of you. I recall that Pino, Jean-Paul and I was supposed to do prioritization? Can we proceed from there? Anyway then Magnus and Sri will have the list so far by the weekend”*.
5. Since the first draft of the program came, the scope of the MCDA survey has diminished. This leaves more time for other actions during the meeting
6. Alfred’s point: one main goal with the event is that at the end of the meeting the stakeholders should not have the chance to say that they were not given the opportunity to say what they want/being listened to
- d. Communication material to the stakeholders before the meeting:
 - i. Pino - prepare 1-2 pages related to the MCDA + current regulations
 - ii. Wout – short summary of WP2
 - iii. Pirjo – short summary of WP3
 - iv. Transformed into popular form (WP4)
- e. Stakeholder list
 - i. Some of the invited stakeholders have to be aware of who they are representing. E.g. some invited from the FEAP should not represent FEAP, but EATIP and/or farmers
 - ii. After the registrations – Pino makes a list of all participants and what category they belong to
 - iii. Some people do not reply, don’t wait too long after 1st of June before we proceed to the second list
 - iv. DLO-LEI: Marieeke (WP3) is not invited, but wants to participate. She can cover her costs
 - v. Nofima: Ingrid/Otto (WP3) - one of them will go.
- f. Others
 - i. Additional rooms – we have been offered extra rooms, but they are expensive
 - ii. Ask Wout to visit the Hotel ASAP to look at the facilities, check what chairs and tables are available. How can people in a comfortable way do the survey. Alfred contacts Wout.

Decisions:

Action:	Responsible:

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After 1 st of June; go to 2 nd priority list and start to invite stakeholders to fill the available seats	Alfred
ASAP and before the next PMB meeting – visit Atlanta and evaluate the available rooms and seats. Are the available accommodations suitable for MCDA survey? Extra rooms are available, but expensive. The need for extra rooms have to be well evaluated	Wout
Send invitations to the GA to join for dinner Sunday night before the event, together with the agenda approx. 30 days prior to the meeting	Åsa
Book 16 th of October (9-11) for a last Lync meeting before the event	All
Before 29 th of May: send to Alfred the answers from the requested survey: <i>“The PMB members are requested to go to their countries representatives of the associations to give their feedback on the five most important issues to be handled by the regulations”</i> (quote from minutes 14th of April).	All
Based on the input from the above point; make a priority list of the most important issues	Alfred, Pino and Jean-Paul
Contact Catherine Pons (FEAP) – ask her to prepare the badges, papers etc for the meeting (as she did for the meeting in Istanbul)	Magnus/Sri
Before the end of week 22, make a new version of the full program based on point 2c “program”	Magnus/Sri
Produce material for communication material to be distributed before the event (see point 2d)	Pino, Wout, Pirjo, Alfred
After 1 st of June, make a list of the registered persons and what category they belong to – in order to communicate back to some participants to ensure that they represent the category they were assigned to – and building up a revised list depending on 1 st round invitations	Pino

3. Other issues

Next meeting – before 6th of July, Åsa creates a Doodle

Sundalsøra, 26th of May 2015,

Åsa Maria Espmark

Meetings in WP2 M1-M18

Minutes - Joint workshop WP2 + 3

Date: 22 and 23rd April 2014

Location: IMARES (IJmuiden, The Netherlands)

Author: Åsa Maria Espmark

Day 1; WP2 and 3.

- There was a discussion on whether fact sheets should be made for each paper since this is not part of the deliverables. Some inputs:
- Ranking system of literature according to quality: 1) Pass; 2) Uncertain; 3) Fail. All “Fail” papers will be skipped; “Uncertain” should be re-evaluated by a second person. Those in category 1 and 2 that pass are again ranked from 1-3 regarding relevance to the regulations
- Create factsheet from the most relevant papers and grey literature.
- Limit the work to key words in the EU regulation, and write factsheets and review on each main topic instead of a factsheet for each paper
- Endnote files can be used as a factsheet database, therefore the papers should be ranked in endnote.
- The fact sheets should be transparent
- For recommendations – use white literature and use the grey as back-up, since grey literature is more difficult to review and verify for credibility
- Structure of review: based on topics
- Draft for review in M8 (August) (Milestone for M8) since it will be presented at the 1st stakeholder event in October
 - Format: 1) Introduction: Present regulations; 2) what have we found in WP 2 and 3; 3) recommendations to the regulations + knowledge gaps

Day 2. WP2

- Pino will make an alternative matrix where he replaces the topics with articles in the regulations. In the factsheet, make a note to what article in the regulation the work refers to. This will limit the literature search so that we only look for literature that can be referred to key-words in the regulations
- Next WP workshop: Vodnany Check Republic, April 2015 (M18)

Sundalsøra, 5th of May,

Åsa Maria Espmark

OrAqua meeting – WP2 work shop

Date: 24 – 25th March 2014

Location: Vodnany

Day 1: 24th of March 2015

Participants: Maria Anton Pardo, Zdenek Adamek, Åsa Maria Espmark, Wout Abbink, Anne Risbråthe, Alfred Jokumsen, Jean Paul Blencheton, Maria Teresa Spedicato, Pino Lembo, Magnus Ljung, Eleonora Fiocchi, Amadeo Manfrin, Andrea Fabris, Ingrid Olesen, Antonio Compagnoni, David Hlavac, Zdenek Broz

From Tromsø via video: Pirjo Honkanen, Themis Altintzoglou, Ingrid Kvalvik

1. Anne Risbråthe – Financial report
 - a. Info will be send to all
2. WP 2 – Wout goes through what's done and what's remains (nutrition, welfare, production systems and environmental impact)
 - a. Don't overdo the review, do what we have promised and no more
 - b. Prioritize other activities – stakeholder events
 - c. Discussion of whether we have fulfilled WP2 tasks. We promised more than we have done. Alfred thinks we have done what we promised
 - d. Objective 2.2: we have fulfilled on Share Point
 - e. Important to the PO, explain what we have done, and why we decided to do it like that
 - f. Avoid repetitions
 - g. In the deliverable of the review: mention all contributors
 - h. Operational framework – make the regulations easily accessible for the industry/users of the regulations
 - i. Ethics –. Ask Helena to split it up in the different sections
 - j. Structure: don't use the expression Regulations (these will come later), exchange with Conclusions.
 - k. Different structure in the different parts, they should be the same
 - l. Welfare of invertebrates – it was suggested not to include invertebrates in the welfare section, but include it in the health section.
 - m. Suggestion to operational framework: make a matrix where we list all indicators and species, and where there exist knowledge and where there are gaps.
 - n. We will be able to revise the review in M30 (Milestone)
 - o. WP3 will be included in the section “production systems”
 - p. Structure of the report. Four documents that need to be merged to one, and two deliverables (D2.1 and D2.2). Options:
 - i. Take out the knowledge gaps from the document and put them in D2.2, or
 - ii. Make one document including the knowledge gaps (D2.1+D2.2), and submit D2.2 as summary of knowledge gaps and refer to D2.1
 - iii. Åsa will ask Catherine Halbert how to do this

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- q. Important for the stakeholders that they don't need to read the whole report, write a summary for each section with major findings, knowledge gaps and conclusions. Look at D4.1 and use the same format.
 - r. Include a summary of WP3 in D2.1 and vice versa
 - s. Wout will send an updated version of the review with special comments to named people where more information is needed
 - t. WP3 (Pirjo) – is participating via Video:
 - i. Want to combine D3.1; D3.2 and D3.3 in one document. Also here we just have to find a way to show the PO that all deliverables are uploaded
 - ii. Also WP3 should be updated in M30
3. Ingrid informs of disseminations. Everybody have to upload the disseminations on the participant portal
- a. Zdenek, Jean Paul informs of their disseminations
 - b. Common policy on authorship – Vancouver Convection is followed in the project
 - c. All things that are considered to be published should first be reviewed internally in the consortium
 - d. OrAqua name and project number should be acknowledged
4. Issue of information to stakeholders:
- a. We need to give some material beforehand the event
 - b. In the stakeholder section in www.oraqua.eu there is now documents from 1st stakeholder event. Also here; put approved Deliverables
 - c. How and what to inform the stakeholders. The public and specialists priorities differently, e.g. how important is welfare, natural life etc. Inform them of this
 - d. The MCDA will give mush of this information. In front of the 2nd stakeholder event we should prepare the stakeholders of the MCDA
 - e. The results from the MCDA will not be presented in Rotterdam; this will be done in the 3rd stakeholder event
 - f. The consumers and the food service are not well represented in the stakeholder group
 - g. We need to follow the criticisms from the 1st stakeholder event (more involvement, more information)
 - h. What should we do in order to avoid that the stakeholders don't come to the 2nd stakeholder event as poorly prepared as they did to the 1st. We have evolved between these two events, but the stakeholders have not
 - i. What triggers the stakeholders to start searching for information? Not publications
 - j. Start the invitation process to the stakeholders, make an invitation letter with a carrot to make them interested to participate. E.g. make examples of questions that we will raise in the MCDA survey. Magnus and Sri will make a proposal
5. MCDA information (Pino), some input:
- a. Consider the weight of importance of different stakeholders
 - i. Put a group (Ingrid, Alfred, Antonio, Pirjo, Jean Paul, Pino) that goes through the groups of stakeholders and evaluate the composition and balance
 - 1. The MCDA survey is very long, the stakeholders should have so much information as possible beforehand so that they can prepare themselves (duration, criteria, glossary)
 - b. The survey is too long. If it is too long the value of the survey is not reliable

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- i. We can split the survey in three parts so that it will not exhaust people
- 6. MCDA test – 15 persons completed the test

Day 2: 25th Marsh 2015

Participants: Maria Anton Pardo, Zdenek Adamek, Åsa Maria Espmark, Wout Abbink, Anne Risbråthe, Alfred Jokumsen, Jean Paul Blencheton, Maria Teresa Spedicato, Pino Lembo, Magnus Ljung, Eleonora Fiocchi, Amadeo Manfrin, Andrea Fabris, Ingrid Olesen, Antonio Compagnoni

From Tromsø via video: Pirjo Honkanen, Themis Altintzoglou, Ingrid Kvalvik

- 2. Announcement from Coordinator:
 - a. EAS meeting in Rotterdam: An organic session, where WP2 and WP3 should be presented
 - b. Due to work load, Ingrid wants to hand over the coordinator role to Åsa. A request has been sent to PO, but until we get an answer Ingrid will continue
- 3. Results from MCDA – Pino presents the results from the MCDA test from day 1
- 4. Discussion of the MCDA (formulation of questions, consistency, understanding of the meaning of the questions etc)
 - a. People need to really understand the questions
 - b. One outcome will be to include a possibility to choose that they “don’t know”
 - c. The option “1”; the danger is that this is chosen because they don’t know
- 5. The MCDA survey will now be evaluated.
 - a. Pino sends out a new version of the survey based on input from the meeting delegates. and we respond to him with our suggestions
- 6. WP4: planning of the second stakeholder event (Alfred)
 - a. Alfred informs of the venue with its logistic possibilities and limitations
 - b. Wifi: possible with high speed Wifi if the normal is not strong enough
 - c. Presently working on accommodation contracts, meeting facilities
 - d. Flight tickets and accommodation will be booked and organized by the same travel agency as in Istanbul (Liberté Selectour)
 - e. We will likely spend all the budget
 - f. Best to travel to Amsterdam and take train from there. For now it is planned to bring the people from Amsterdam with taxi, but this is expensive and unnecessary
 - g. Check-list, the time limit to make decisions are very limited. We need to decide soon when people are expected to come
 - h. Cancellations are difficult, cause the time limit to cancel without fee are very strict and long before the event
 - i. Start the meeting Monday morning instead of 12:00. Many people will have to arrive the night before anyhow, so it is better to start early. Invite the stakeholders to arrive Sunday night (without dinner Sunday)
 - j. The MCDA requires that everyone bring a lap-top. The meeting rooms are not so feasible for survey: A possibility is to allow people to do the survey in their hotel room, and also to hand out the survey in hard copy to be filled out
 - k. Fill in the survey in their room, in the conference room or any other place inside the hotel

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- l. Pirjo: the survey is too long; send the survey beforehand to let them fill in the form before they arrive. A danger with this is that they will discuss the questions with colleagues
 - m. Pirjo and Themis do not think we should inform the stakeholder anything before the survey
 - n. The survey will also enable everybody to be able to give their opinions, and that these opinions are equally weighted. This was a criticism from Istanbul, that people said they were not heard
7. New regulations – Pino: ORGANIC AQUACULTURE: FROM THE REG. EC 889/2008 TO THE NEW PROPOSAL OF REGULATION ON ORGANIC PRODUCTION AND LABELLING OF ORGANIC PRODUCTS
- a. New suggestions to the regulations: Since the introduction of the implementing rules on organic aquaculture into the Reg. 889/08, the organic market has continued to have a dynamic development. In addition, the legislation has shown elements of complexity along with unresolved issues, which are stopping farmers from joining the Union's organic aquaculture scheme. Some of the most controversial matters have been addressed by the Expert Group for Technical Advice on Organic Production (EGTOP), which delivered a first report (Part A) on December 2013 and a second report (Part B) on July 2014
 - b. The amending regulations 889/2008
 - c. Article 1: In paragraph 11 of Article 95 of Regulation (EC) No 889/2008, '1 July 2013' is replaced by '1 January 2015'.
 - d. Article 25e, paragraph 3 is replaced by the following: 3. The maximum percentage of non-organic aquaculture juveniles introduced to the farm shall be 80 % by 31 December 2011, 50 % by 31 December 2014 and 0 % by 31 December 2015.
 - e. Article 25e, paragraph 4 is replaced by the following: For on-growing purposes the collection of wild aquaculture juveniles is specifically restricted to the following cases: a) natural influx of fish or crustacean larvae and juveniles when filling ponds, containment systems and enclosures; b) European glass eel, provided that an approved eel management plan is in place for the location and artificial reproduction of eel remains unsolved; c) the collection of wild fry of species other than European eel for on-growing in traditional extensive aquaculture farming inside wetlands, such as brackish water ponds, tidal areas and coastal lagoons, closed by levees and banks, provided that: the restocking is in line with management measures approved by the relevant authorities in charge of the management of the fish stocks in question to ensure the sustainable exploitation of the species concerned, and the fish are fed exclusively with feed naturally available in the environment.
 - f. In Article 25k, paragraph 1, the following point (e) is added: feed products derived from whole fish caught in fisheries certified as sustainable under a scheme recognised by the competent authority in line with the principles laid down in Regulation (EU) No 1380/2013 of the European Parliament and of the Council
 - g. In Article 25k, the following paragraph is added: Histidine produced through fermentation may be used in the feed ration for salmonid fish when the feed sources listed in paragraph 1 do not provide a sufficient amount of histidine to meet the dietary needs of the fish and prevent the formation of cataracts.
 - h. Article 25l, paragraph 3 is replaced by the following: 3. Where natural feed is supplemented according to paragraph 2: a) the feed ration of siamese catfish (*Pangasius* spp.) as referred to in Section 9 of Annex XIIIa may comprise a maximum of 10 % fishmeal or fish oil derived from sustainable fisheries; b) the feed ration of shrimps as referred to in Section 7 of Annex XIIIa may comprise a maximum of 25 % fishmeal and 10 % fish oil derived from sustainable fisheries. In

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order to secure the quantitative dietary needs of shrimps, organic cholesterol may be used to supplement their diets; where organic cholesterol is not available, non-organic cholesterol derived from wool, shellfish or other sources may be used.

8. Antonio Compagnoni – informs of the challenges of the process on regulations
 - a. A big need for new regulations cause the old ones did not work
 - b. Harmonization of regulations in Europe. Different standards in different countries, different interpretations, different competence makes making rules difficult
 - c. The control system is one problem. The regulations are OK, but the control system is poor.
 - d. Antonio will summarize in an article and send to us

Sunnalsøra, 27th of March 2015

Åsa Maria Espmark (Project manager)



Meetings in WP3 in M1-M18

There have been 4 meetings in WP3 during the reporting period. In addition, informal contacts between the partners have taken place whenever needed.

1. WP3 meeting at Kick off meeting 10. January 2014. Ås, Norway

Participants: Pirjo Honkanen (WP leader, Nofima), Willem van der Pijl (LEI), Lizzie Melbu Jespersen (ICROFS), Johan Bakker (LEI), Mariët van Haaster de Winter (LEI), Antonio Compagnoni (ICEA), Otto Andreassen (Nofima), Nina Baumgartner (ICEA), Courtney Hough (FEAP), Jan Widar Finden (Debio) and Themis Altintzoglou (NOFIMA).

Partners COISPA, USB and Culmarex did not attend the meeting

Agenda:

- General discussion about the WP: participants, work load (no. of PMs), deliverables, milestones
- Discussion about the literature review: what, how and where to search
- Discussion about tasks: responsibilities
- Further work/ work plan for the next 6 months

Summary: There was a discussion about the WP in general. Agreement about the main tasks. The deliverables and milestones were discussed, together with the approach for literature search. There was an agreement that we should mainly use scientific, peer reviewed literature, but also grey literature where no other options are available. A quality/relevance mark should be given to grey literature. The responsible partners for each task were assigned. Task 3.1: Nofima (Themis Altintzoglou); Task 3.2: LEI (Johan Bakker); task 3.3.: Nofima (Otto Andreassen). All partners will, however, contribute wherever relevant.

2. WP3 meeting at Ijmuiden, 23. April 2014 (in relation to the joint WP2 and WP3 workshop, 22,-23-4)

Agenda:

- Progress as reported by the task leaders
- Discuss results and remaining work in each task:
 - o Consumer literature & Consumer survey
 - o SWOT analysis
 - o Economic model to be developed
 - o Institutional frameworks
- Discuss the report structure – M8 (1 report) and final (3 reports, one each task)
- Work plan ahead & deadlines
- Stakeholder event – to do
- Schedule next meeting

Summary:

Participating: Pirjo Honkanen (Nofima), Themis Altintzoglou (Nofima), Victor Immink, Henri Prins, Mariët van Haaster - de Winter (LEI). Johan Bakker was replaced by Victor Immink (LEI) as a task leader. Henri Prins was also introduced as a new participant in task 3.2.

Progress: We had a discussion about the progress in WP3. The literature review in all tasks is progressing nicely. The task leaders presented preliminary results.

In task 3.1, the preliminary review has revealed the most important gaps in the literature, which will be addressed in a survey to be conducted in June. The collection of data for the SWOT analysis is in progress.

In task 3.2, an impact-matrix on organic regulations and their possible impact on costs have been developed. This will be used in development of the economic model.

In Task 3.3, the data collection is completed and the analysis will start in May.

Fact sheets: WP 3 does not want to spend scarce resources on developing fact sheets on every paper that is reviewed. We do agree, however that we have to be able to show why we have chosen the papers that we have included in the review. That can be done with End-note, where the bibliography is already created. It is possible to include a relevance rating in End Note as well (Low, medium and high relevance). To be uploaded at share point.

Report/review structure: We agreed to report the review according to the main themes agreed upon in the kick-off meeting, namely Animal welfare, Environmental impact, Feed/nutrition and production systems. The layout will be developed after the meeting and sent to all WP leaders.

3. WP3 meeting, June 16th, 2014, Electronic meeting (Lync)

Agenda:

- New participant profiles. We need to send an update to the project officer about new people in the project
- Share point is working now: how should it be structured for the fact sheets/ end Note bibliographies?
- What should be delivered to WP4 in August? This was discussed in a PMB meeting. I'll update you on that
- Progress, plans ahead

Participants: Pirjo Honkanen, Themis Altintzoglou, Otto Andreassen (Nofima) Victor Immink, Henri Prins (LEI).), Mariët van Haaster de Winter on maternity leave.

Summary: All tasks should upload bibliographies and any preliminary results at share-point. It will be organized as the final report: subfolders for the three tasks: consumer, economics and institutional frameworks. Under each of these, subfolders are created for feed, welfare, production and environmental issues. In addition, a subfolder will be created for the preliminary report MS3.

The progress and plans ahead were discussed. The preliminary literature review is planned to be finished in August. A summary will be produced to be used by WP4 to prepare the Stakeholder meeting in October. The progress is as expected in all tasks.

4. WP3 meeting November 19th 2014, at 9.00 AM. Electronic meeting (Lync)

Agenda:

- Stakeholder meeting. Update and discussion of feedback
- Progress per task. Task leaders prepare a short overview.
- Plans ahead per task. Task leaders prepare a draft
- Final report: M18
 - Structure: 1 report or three (one per task)?
 - Deadline to WP leader

- Other issues
- Next meeting

Participants: Pirjo Honkanen, Themis Altintzoglou, Otto Andreassen, Mariët van Haaster de Winter, Victor Immink

Summary: The participants received all available documentation from the Stakeholder meeting in advance (mainly from WP5). Of the participants, only Pirjo and Themis were at the stakeholder meeting.

- Pirjo gave a short summary of the stakeholder meeting in Istanbul in October. Not much new or comments on the consumer task or the institutional frameworks tasks. The summaries from the roundtable discussions are at the share point or sent to you together with the agenda for this meeting. Henri and Robert had their own short workshops with selected stakeholders to collect economic data or feedback to the model. They have reported their findings to Victor.
- Progress and future plans:
 - o Task 2.1. Consumer issues. The preliminary report is at the share point and includes the literature review and results from the survey. We will stop including new papers now. Further process will be to finalise the review and analyse the survey data for gaps found in literature review. The report on consumer issues will be finalized by the end of 2014.
 - o Mariët will have a separate section in the consumer chapter on SWOT analysis from the market point of view. Mariët is collecting opinions from stakeholders to be included in the SWOT analysis. A document will be produced which includes the bibliography. Most of the literature is grey literature. The document will be completed in January 2015.
 - o Task 2.2. Farm economics and competitiveness. The work is proceeding well after collecting data from the stakeholders. Waiting for a new database in 3 weeks from now. The economic modeling will be finished by the end of the year. The analysis of the competitiveness will be finished in March 2015. A literature review will be prepared and uploaded at share point.
 - o Task 3.3. Otto has not been able to work as much as planned, but he will be able to finalise the work in subtask 3.3.1 by February 2015, and the comparison between the 4 countries in March 2015. Mostly grey literature, documents from governmental bodies, certification bodies etc.
- Final report: M18
 - o Structure that was agreed on earlier is ok, so we will compile one report for WP3. Maybe we will include the methodology under each task instead of having one joint chapter.
 - o Deadline to WP leader. The deadline is April 15.

5. Participated via Lync in WP2 workshop in Vodnany, 24.-25. March 2015.



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FP7-KBBE. 2013.1.2-11 Assessment of organic aquaculture for further development of European regulatory framework

Coordinator: Åsa Maria Espmark. Funded by the EC (**Grant No: 613547**)

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