METHODOLOGY TO COLLECT BEST PRACTICES ON RAISING THE PERCEIVED ECONOMIC POTENTIAL OF THE EXTRA-SMES SECTOR

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1 Executive summary

This methodology aims to guide EXTRA-SMEs project partners on the identification and documentation of best practices on enhancing the performance and raising the economic potential of the aquaculture sector in the EU-28. The rationale for exchanging good practices on this area is to gather practical insights on how to improve and adapt aquaculture business development strategies through reflection and analysis, share lessons learned from actual implementation, and implement large-scale, sustained and more effective interventions to raise sector's productivity and competitiveness, based on validated results and evidence.

Broadly speaking, a good practice is a methodology, tool, process or intervention that has proved to work well and producing good results, and hence is recommended as a key referential model. It refers to a successful experience, which has been tested and validated in practice and demonstrates strong transferability potential. Good practices require adaptation to the context and given conditions, and need to be widely disseminated so that a greater number of actors can adopt it.

In the context of this project activity (EXTRA-SMES A1.3), good practices pertain to business strategies and interventions, whose contribution to raising the economic potential and supporting innovation and extraversion of the aquaculture sector is positive and well documented, and hence can be used as reference business models in similar attempts.

The focus will be on interventions taken by both aquaculture SMEs and public authorities, to foster sustainable aquaculture development, enhance productive efficiency & extraversion and upgrade the perceived economic potential of the sector. The following categories will be explored:

- Business innovation strategies
- Technological innovations
- Research and Development (R&D) activities
- Strategic alliances and synergies
- Capacity building and awareness

Good practices and cases on business strategies and interventions will be collected with the contribution of all EXTRA-SMEs project partners through desk research. Partners need to review different sources of information (e.g. academic publications, business reports, articles, businesses' websites, similar research studies carried out at the EU level) to identify practices from their country, which are considered to be successful, and pertain to the categories

defined by the methodology. They may also contact the implementers of identified practices (e.g. aquaculture businesses or regional authorities) to retrieve more information and discuss their effectiveness and results. At a next stage, project partners should compile their research findings and complete a case documentation form for each practice in English, with all useful information they have retrieved, as appropriate.

Finally, the methodology defines case collection targets per partner, elaborates on the evaluation criteria for the selection of good practices and outlines a detailed action plan for the administration and implementation of EXTRA-SMEs Activity A1.3.

2 Categories of interventions on raising sector's performance and economic potential

This section presents the main categories of interventions, in order to streamline data collection by project partners. **The focus will be on strategies and approaches to foster aquaculture development and extraversion in aquaculture SMEs, essentially raising the perceived economic potential of the sector as a whole in partners' regions and across the EU**. Cases to be collected might include initiatives from both aquaculture businesses and public authorities. Nonetheless, legal acts and policies intended to improve governance in the sector are beyond the scope of this activity.

Data collection activities should revolve around the following categories of business interventions/activities:

- Business innovation strategies
- Technological innovations
- Research and Development (R&D) activities
- Strategic alliances
- Capacity building and awareness

2.1 Business innovation strategies

This category includes business innovation strategies for aquaculture SMEs across the value chain that improve their competitiveness and productivity. Innovation is a major driver of economic progress. It plays an important role in meeting global challenges, especially in areas such as environmental conservation and sustainability. The current challenges in aquaculture innovation are related, among others, with improving production processes, increasing nutrition value of aquaculture products, developing specific species diets, and health management.

The challenge for aquaculture SMEs is to rejuvenate their business model and therefore their organisational structure, in an attempt to foster rapid growth and increase business competitiveness. Innovation in a business model is more than a mere product, service or technological innovation. It goes beyond single-function strategies (such as the development of a new product), including the reorientation of business strategy and the incorporation of innovative processes within the business system architecture (e.g. flexible pricing scheme, co-branding, participation in collaboration networks).

According to the Oslo manual, innovation in business reality can be defined as "*a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit ''process*" or as "*new product process new to the firm, new to the market new to the region, new to the world*".

There are several different ways an aquaculture business can innovate, including but not limited to: a) product innovation (new products and services to market and major improvements in the functionality or user characteristics of existing goods and services), b) process innovation (technologies, processes, equipment), c) organizational innovation (workplace organization, commercial practices, relations with wholesalers and retailers), and d) marketing innovation (branding, distribution channels, labelling). More particularly, these may include (as suggested in project activity A1.2):

- Improvement of the production process of existing species to reduce production costs or increase production volume or quality.
- Diversification through the breeding of new species
- Development of new processes of raw material processing and maintenance
- Development of new technologies, processes and practices for the quality assurance and traceability of products
- Participation in special production schemes, such as organic or environmentally and socially responsible production, adhering by the relevant standards and receiving the corresponding certifications;
- Development of marketing and branding strategies by, for instance, creating or participating in, or promoting a regional brand name or highlighting the product's nutritional value.

Differentiation, strongly with linked with innovation, is a fundamental business strategy, by which a company concentrates on distinct differences in its offering to customers, as the basis for establishing a competitive advantage and enhancing its economic performance and potential. Depending on the direction that could be followed by the aquaculture SMEs, differentiation may take different forms:

- **Horizontal differentiation** is the development of new products or services that may be of interest to existing customer groups of the aquaculture economy.
- **Vertical differentiation**, which occurs when the enterprise goes back to the previous stages or ahead of the next stages of production cycle.

- **Concentric differentiation**, where the portfolio of production is expanded to new products and aiming at full exploitation of technologies and the marketing system.
- **Heterogeneous - cumulative differentiation**, which concerns new types of products or services with no technological or commercial relationship with current products and equipment, but likely to be of interest to new consumer groups.
- **Business differentiation** that involves the production of non-related but profitable goods and is usually combined with large investments, with high returns.

What is more, differentiation may occur in different stages of the aquaculture value chain. The aquaculture value chain consists of the following stages:

1. Supplies: Feeding products, IT systems
2. Seed production: Hatcheries, nurseries
3. Growing: Farming, harvesting
4. Primary processing: Cleaning, grading, packing
5. Secondary processing: Filleting, Smoking, ready meals
6. Distribution: Transport, warehousing
7. Wholesale and retail: Trading relationships, marketing channels

Business innovation is affected by factors that are external and can impact an aquaculture enterprise such as technological availability, economy, political environment, regulations and national frameworks for innovation, and for fisheries and aquacultures sectors. This leaves room for public authorities to provide incentives (e.g. flexible tax reduction and pricing schemes, direct funding for new technologies development/adoption, business support services, capacity building) to aquaculture SMEs to support innovation adoption that will help to optimise their processes and differentiate offerings.

2.2 Technological Innovations

Adaptation to alternative feed sources, disease resistance, feed efficiency, human health and modern nutritional requirements requires, among others, technological innovations across the aquaculture value chain. For the purposes of this study, this category needs to mostly revolve around technological innovations in the areas of recirculation, reproduction, disease management and feeding.

Recirculation systems

Recirculation aquaculture is essentially a life support system for fish. It is generally defined as intensive aquaculture in which the water is reconditioned as it circulates through the system and no more than 10% of the total water volume of the system is replaced daily. In order to compete economically and efficiently use the substantial capital investment in the recirculation system, the fish farmer needs to grow as much fish as possible in his system.

In a recirculation system, a high utilization rate of the feed is beneficial and will minimize the amount of excretion products thus lowering the impact on the water treatment system. In a professionally managed system, all the feed added will be eaten keeping the amount of uneaten feed to a minimum.

In a recirculation system it is necessary to treat the water continuously to remove the waste products excreted by the fish, and to add oxygen to keep the fish alive and well. A recirculation system is in fact quite simple. From the outlet of the fish tanks the water flows to a mechanical filter and further on to a biological filter before it is aerated and stripped of carbon dioxide and returned to the fish tanks. This is the basic principle of recirculation.

Reproduction Innovations

Biotechnology can be applied to the reproduction stage, to increase aquaculture production and foster ecological sustainability. Differences in growth rate between the sexes. Techniques to produce monosex populations continue to be important. In several commercially important carp species, female grow faster than males for the first year of life, so farmers prefer all-female populations. Molecular techniques show promise for aquaculture application, in that they help provide more adaptive information on the genetic diversity of natural stocks and allow genetic diversity of naturals stocks of animals in breeding programmes. Endocrine regulations of reproduction have been applied across a broad range of cultured fish species.

Disease Management

Production of specific pathogen free and specific pathogen resistance stocks are two complementary objectives being developed through shrimp broodstock management programmes. Movements of aquatic animals have in some cases lead to the spread of aquatic animal diseases. An urgent need for aquaculture health management is the establishment of standards for quantitative assessment of health status in the broad range of species under

culture. New techniques could be used to develop simple and rapid health tests for use under conditions by field technicians, veterinarians and the farmers themselves[1].

Feed technologies

Intensive aquaculture relies heavily on commercially produced fish feeds, which can lead to increased water usage and pollution. To both reduce this environmental impact and improve the nutritional value of farmed fish, aquaculture SMEs need to adopt modern nutrition and feed technologies. For instance, plant protein has a significant potential to address the problem of the phosphorus pollution, since plants do not contain the high levels of phosphorus found in animal protein, usually used as feed in aquaculture. The use of plant protein in aqua feeds also helps to reduce pressure of wild fish stocks. Research in this area is focusing on the investigation of plant species and plant-animal protein mixes, as new sources of protein for aqua feeds for shrimps, molluscs and finfish. Dependable availability of quality of quality fry to stop grow-out production systems has been one of the most critical factors affecting commercial success of fish and selfish production.

Future aquaculture development depends on the ability of farmers and processors to deliver products with high nutritional value. Biotechnology tools can improve understanding of species, stock, and populations. This can be achieved by market-assisted gene selection techniques, transgenic manipulations and improved cryopreservation of gametes and embryos. Progress in this arena will require sophisticated molecular biology technologies to be adapted to aquatic organisms, in order to enhance understanding of their biological processes. Bioremediation is another promising biotechnological approach for degradation of hazardous waste to save levels for the environment, using aquatic microorganisms, or another filtering macro organism.

Concerning technological innovation in aquaculture, universities can produce and transmit scientific knowledge, conduct basic research projects across many disciplines, and contributes to the training of new inventors. Institutions and, public and private research centres also carry out research projects as well as adaptive and applied research.

[1] http://www.fao.org/tempref/docrep/fao/005/y4490E/y4490E05.pdf

2.3 Research and Development

Productivity and competitiveness are strongly linked with investments in knowledge creation and, consequently, in research and development. This category comprises cases of R&D investments or projects launched in partnership countries by private actors, to support innovation adoption and advance the sector. Indicative R&D areas for sustainable aquaculture development and modernisation include:

- Improving management procedures that reduces handling of fish altogether;
- Improved fish grading techniques;
- An early warning system for fish disease outbreaks;
- Efficient and possibly alternative methods of treating fish when they are subject to disease outbreaks;
- Aquatic animal health (pathogen identification, detection and screening);
- Certification tested;
- Hatchery operations;
- Selective breeding

For aquaculture businesses, access to finance for research and development could be particularly difficulty due to the high commercial risk associated with immature or less developed markets, the high capital intensity of some technologies, and relatively long term investment period. To this end, public authorities need to intervene for creating a favourable environment for R&D investments in the sector, mostly by creating links between businesses and research community and mobilizing funds. Aquaculture SMEs, on their part, should re-orientate their strategy to focus more on research and development, paying particular attention to the transformation of R&D results into practical applications. The transfer of knowledge from both the venture with Universities and vice versa is also a key factor. It should be noticed that in several cases the collaborations in the “triple helix” concept, may result in significant reduction of innovation performance due to high search, coordination and transaction costs. This becomes more severe for SMEs with low knowledge stock and subsequently low absorptive capacity

Molecular diagnostics continue to be adapted and optimized for a wide range of applications in aquaculture. Various methods and technology platforms can be used strategically in aquatic animal health applications, as well as to improve and accelerate selective breeding programs, molecular applications and research and development.

2.4 Strategic alliances and synergies

Building partnerships with research institutes, civil society organizations, academia, international development organizations and the private sector (businesses across the aquaculture value chain), can help unleashing the innovation potential of sector, and increase performance and competitiveness of individual aquaculture businesses. Cooperation can optimize resources (both financial and human) and intensify research capacities, provide a place to share experiences, information, facilities and equipment, and finally exploit the different and specific competencies of the parties involved. This category contains initiatives set aside to enhance co-operation in fisheries and aquaculture sectors. Indicative examples that fall into this category are:

- Cooperatives: autonomous and voluntary open membership organization which concerns the community (e.g. Consultative Committee on Fisheries and Aquaculture industry representatives, consumer, workers and environmental organizations).
- Innovation and knowledge networks: type of knowledge network which support entrepreneurial innovation (Norwegian Institute for Fishery and Aquaculture Research)
- Clusters: organizations based on concentration of interconnected businesses, suppliers, and associated institutions in a particular sector (NCE Seafood Innovation)
- Public Private Partnerships: long term contacts, public private consortium (INvertebrateIT)

Broadly speaking, there are five potential collaboration areas for both public and private bodies directly and indirectly involves in the aquaculture sector:

- Development and technical projects: Partners would collaborate on aquaculture initiatives locally, regionally and globally.
- Policy dialogue: The dialogues would be on various global and regional issues related to aquaculture development.
- Norms and standards: Partners would collaborate on development, negotiations and corporate social responsibility of international codes of conduct, and on global conventions and regulatory frameworks in areas related to UE policy on aquaculture development.
- Knowledge management: Partnerships would manage, promote the flow information and global knowledge on aquaculture issues and make it accessible to involved actors. EU encourages the sharing and information of partners' through global networks.

2.5 Capacity building and awareness

The development of fully functioning knowledge networks through capacity building and awareness raising activities can have significant impacts on innovation efficiency and effectiveness, in reducing the transaction costs of knowledge diffusion and by encouraging green innovation in areas where market signals are not fully effective.

Capacity building

Capacity building is a cross cutting theme, considered to be a key driver for sustainable aquaculture development and innovation adoption. The FAO Fisheries and Aquaculture Department encourages both competent public authorities and aquaculture SMEs to undertake capacity building activities, to strengthen the capacity of the sector to support sustainable, cost efficient and safe fishing operations and methods, get involved in fisheries management, and integrate innovative technologies and processes. Relevant activities may include the delivery of training courses on specific topics and technologies, preparation of training materials (e.g. simple methods in aquaculture series, disease diagnostic guides, surveillance methods, extension manuals, technical manuals, etc.), awareness raising through training/workshops, financial and technical support for staff participation in training programmes carried out by partner institutions.

Awareness raising activities

There is wide consensus on the importance of aquaculture both as a traditional food production and supply sector that can address the world's growing demand for seafood, and as a key driver for sustainable Blue Growth with multiple benefits for coastal communities and significant contribution to environmental protection. On the other hand, even in leading producing areas, there is a distinct lack of general awareness on the importance and large economic potential of the sector.

Campaigns on aquaculture fall mainly within two broad categories: a) public campaigns to promote the aquaculture sector as a necessary and environmentally friendly food production industry, and b) campaigns launched by businesses for marketing aquaculture products and promoting healthy diets and responsible consumption.

At present, there is an emerging parallel call from consumers, scientists, private industries and some public entities to create and promote public standards for certification, beyond basic legislation, to competitively distinguish those methods and products of larger objective

sustainability as a more transparent, accessible and reliable playing field for producers and consumers alike.

Awareness raising activities need also to target at the resolution of conflicting (socio-economic) interests, and creating a positive public opinion of the sector as heavily undermined by false perceptions on its economic potential, environmental sustainability and contribution to local communities' development. For instance:

- Citizens associations and local communities are worried about the nutritional value of aquaculture products, the use of chemicals in feeding and production processes, and the risk of disease transmission.
- Small scale fishermen and local people are frequently against large aquaculture units deployed in their area, as they see them as competitors.
- Local communities also expect a greater contribution from fish farms to local population development since the amount paid to the local administration is low and the export-orientated sector is not beneficial for local people (example Oinousses Island, Greece; the same in Norway: NGOs and researchers were opposed for the unjust distribution of benefits – very small tax from fish farms).
- Environmental organisations protest for environmental damages associated with aquaculture activity, requesting large compensations (examples: South Evoikos Gulf in Greece, Charentais Sounds in France, Ireland, Scotland and Norway).
- Conflicts between different levels of public administration/governance (ex. In Greece the municipality of Lagadas conflict with the higher municipality of Chios, same example in Galway Bay in Ireland, Norway).

Table 1: Classification of intervention

Categories	Characteristics	Subcategories
Business innovation strategies (business model innovation)	There are several different ways an aquaculture business can innovate: a) product innovation, b) process innovation, c) organizational innovation, and d) marketing innovation. Differentiation can take different forms: horizontal, vertical, concentric, heterogeneous and business differentiation. Differentiation occurs in different stages of the aquaculture value chain.	- Facilities and construction techniques - Breeding processes - New processes of raw material processing and maintenance - New technologies - Product diversification - Certification - Marketing and branding strategies - Product Proliferation
Innovative production technologies	Adaptation to alternative feed sources, disease resistance, feed efficiency, human health and modern nutritional requirements requires technological innovations across the aquaculture value chain.	- Reproduction Innovations - Disease Management - Feed technologies
R&D	Productivity and competitiveness are strongly linked with investments in knowledge creation and, consequently, in research and development. The SMEs wish to become known as organizations of research within the aquaculture industry. To achieve this and to ensure a sustainable sector organizations strategy must will be focused on research and development that will include transfer of knowledge both from the venture with Universities and vice versa.	- Fish grading techniques; - An early warning system for fish disease outbreaks; - Health and Safety - molecular applications - Hatchery operations; - Selective breeding
Strategic alliances	Building partnerships with research institutes, civil society organizations, academia, international development organizations and the private sector. **I**ncrease performance and competitiveness of individual aquaculture businesses. Cooperation can optimize **resources** and intensify research capacities, (e.g. cooperatives, innovation and knowledge networks, clusters, public private partnerships).	- Cooperatives - Innovation and knowledge networks - Clusters - Public Private Partnerships
Capacity building and awareness	Campaigns on aquaculture fall mainly within two broad categories: a) public campaigns to promote the aquaculture sector as a necessary and environmentally friendly food production industry, and b) campaigns launched by businesses for marketing aquaculture products and promoting healthy diets and responsible consumption.	- Training courses on specific topics and technologies - Educational materials - Workshops - Delivery of financial and technical support

3 Methodological Approach

3.1 Purpose and objectives

The purpose of this research activity is to collect good practices on raising the economic potential and supporting innovation and extraversion of the aquaculture sector that will assist public authorities in identifying ways to create an encouraging environment for aquaculture SMEs, boosting sectoral growth and fostering internationalization.

The study aims to respond to the following questions:

- What business strategies and interventions have proved to be effective in promoting sustainable aquaculture development in the EU?
- What are the key features of these practices?
- What problems were encountered prior and during the implementation of these processes and practices?
- What benefits have these best practices delivered?
- Are these practices essential in fostering enhanced economic performance and raising sector's competitiveness as a whole?
- Can these practices be replicated in other contexts and regions?

3.2 Data collection

Good practices and cases on business strategies and interventions will be collected with the contribution of all EXTRA-SMEs project partners through desk research. In contrast to quantitative analysis, qualitative analysis does not begin when all the data are collected, but rather is an on-going process. The reason why research (secondary research) has been selected as methodology of this study is that it represents an efficient way to capitalize on existing knowledge without investing too much time and resources. Desk research involves collecting data from existing sources of information; hence it is often considered a low cost technique as compared to field research.

Good practices and case studies in European aquaculture sector management will be collected with the contribution of all the partners through desk research. Research (collecting relevant information) is effectuated outside the organizational boundaries. It involves the participation of all aquaculture SMEs partners in order to get together information for a particular issue. There are five sources of information where project partners can retrieve relevant cases: a) academic publications, b) EC and government published data/reports, c) business reports and

statistics d) civil society and consumers research outputs (civil society and consumers are considered the most informed as they are actually concerned from the aquaculture sector), and e) educational institutions. Research may also involve information collection from within aquaculture SMEs partners' organizations such as previous research studies in the topic under investigation, and aquaculture management at territorial level. A multiple best practices study enables the researcher to explore differences within and between evaluation criteria (defined in section 3.5).

However, there are some disadvantages associated with desk research. The major challenge is credibility. How do we know that references and evidence are factual? How do we know that the results are accurate? Sources of information must be carefully scanned to assure the validity and accuracy of data included therein. Secondly, not all sources provide the latest figures and statistics. Researchers should select those with the most updated data. Thirdly, research derives from collective primary research data. This means that the success of desk research largely depends on the quality of field research conducted at primary level.

Ethics in research refers to a code of conduct or expected norm of behaviour while conducting research. Ethical conduct should also be reflected in the behaviour of the researchers who conduct the investigation, the participants who provide the data, the analysts who provide the results, and the entire research team that interprets the results and suggests different solutions.

Project partners should look for practices, interventions and business strategies that have proven successful in improving the competitiveness of aquaculture SMEs, and raising the economic potential of the sector. A very good example is the European Aquaculture Technology Platform (EATIP), an industry-led stakeholder forum, acknowledged by the European Commission as a major driver and stimulator of innovation development and knowledge transfer for the aquaculture sector in Europe. EATIP falls into the category of strategic alliances and synergies, as a platform that brings together aquaculture stakeholders and actors from across Europe to exchange expertise and collaboratively develop new solutions that will advance the sector and increase its competitiveness. It develops research and innovation agendas and roadmaps for action at EU and national level to be supported by both private and public funding. The platform mobilizes stakeholders to agree on common priorities and share information and expertise. Overall, data collection activities should revolve around the following categories:

- Business innovation strategies
- Technological innovations
- Research and Development (R&D) activities
- Strategic alliances and synergies
- Capacity building and awareness

3.3 Geographical scope and case collection targets

All partners will contribute to data collection with cases exclusively from their country. In addition, the University of Patras will collect cases from the rest EU countries.

The methodology suggests two scenarios, regarding the number of cases be collected by project partners: a baseline and a good scenario. In the baseline scenario, the desirable number is 30 cases of aquaculture good practices and tools; the good scenario foresees 45 cases.

The relevant project target is to identify at least 15 best practices, to be included in the final Good Practice Guide.

The distribution of cases among the project partners was determined on the basis of a) partners' type of organisation (university, public authority chamber of commerce or agency), and b) contractual obligation derived from the Application Form.

Table 2: Target number of answers per consortium country and project partner

Partner	Country	Type of organization	Baseline scenario	Good scenario	Minimum cases from EU (part of total)
Region of Peloponnese	Greece	Regional authority	3	5	0
Liguria Region	Italy	Regional authority	3	5	0
Northern Chamber of Commerce in Szczecin	Poland	Chamber of Commerce	3	5	0
Lapland University of Applied Sciences	Finland	University	4	6	0
University of Patras	Greece	University	8	10	5
Western Development Commission	Ireland	Development agency	3	4	0
Liguria Cluster for Marine Technologies	Italy	Cluster	3	5	0
Public institution National regions development agency	Lithuania	Development agency	3	5	0
Total			**30**	**45**	**5**

3.4 Case documentation form

This methodology proposes a structured documentation form, to ensure a comparable presentation of collected practices. The form will be common for all project partners to facilitate the documentation of relevant evidence and information and guarantee that all identified practices will be reported in a consistent and clearly structured manner. Project partners should compile their research findings and fill in the form in English, as appropriate. The following table provides an outline for documenting relevant interventions. In addition, the methodology provides a completed form (Annex B) as an example to make it easier for partners to comprehend the requirements of data collection and documentation.

Table 3: Outline for documenting practices

Section	Description
Title of the practice	The title should be brief and reflect the practice being documented.
Practice Identification	This section should provide the context of the practice, addressing the following issues: • Category of intervention • Geographical scale • Location • Start year of operation
Practice description	This section should address the following questions: • What is the intervention about? • What are the main objectives? • What kind of support did public authorities provide for the implementation of this initiative?
Implementation of the practice	This section should address the following questions: • What are the main functions of the practice? • Who initiated the intervention? Who are the key factors involved and support its operation? • What were the financial requirements? How was the practice funded?

Section	Description
Results and transferability potential	This section should address the following questions: • What are the main benefits sought by aquaculture SMEs from this intervention? • What are the key features that make the practice transferable?
Further information	Partners should provide a list of references, links, and source documents to retrieve more information on the practice.

Template for documenting relevant cases

Title of the practice	
Practice Identification	
Category of interventions	○ Business innovation strategies (business model innovation) ○ Technological Innovations ○ R&D ○ Strategic alliances ○ Capacity building and awareness ○ Other (please specify)
Geographical scale	○ EU wide ○ Macro-Regional (e.g. Mediterranean, Baltic countries) ○ National ○ Regional ○ Local
Location	
Start year of operation	
PRACTICE DESCRIPTION	
What is the intervention about?	
What are the main objectives?	
What are the main needs addressed by this initiative?	
What kind of support did public authorities provide for the implementation of this initiative?	

- ☐ Tax incentives
- ☐ Subsidies and rebates
- ☐ Direct funding
- ☐ Flexible pricing policy
- ☐ Loans with preferential terms
- ☐ Business support services (e.g. training, advisory services)
- ☐ No support provided by local authorities
- ☐ Other (please specify)…….

Discuss in more details the support provided by public authorities

IMPLEMENTATION OF THE PRACTICE

What are the main functions of the practice?

Who initiated the intervention? Who are the key factors involved and support its operation?

What were the financial requirements? How was the practice funded?

What were the main problems encountered during implementation?

- ☐ Regulation / limited support by local policy makers
- ☐ Funding, lack of financial resources
- ☐ Lack of expertise / skills of existing employees
- ☐ Lack of motivation and commitment among suppliers
- ☐ Lack of interest among customers
- ☐ Economically unsound or risky investments
- ☐ No problems encountered
- ☐ Other (please specify)

Please comment on your selection

RESULTS AND TRANSFERABILITY POTENTIAL

Indicate the main benefits sought by aquaculture SMEs from this intervention
☐ Raised public awareness on sustainable aquaculture ☐ Improved capacity to address aquaculture related issues ☐ Contributed to the resolution of environmental and socioeconomic interests ☐ Raised the level of cooperation between public and private sector ☐ Helped to access new markets ☐ Increased productivity ☐ Led to more revenues ☐ Fostered innovation adoption ☐ Other (please specify) Please comment on your selection:
What are the main features that make this intervention transferable?
☐ Needs addressed are common across European regions ☐ Demonstrated achieved benefits outweigh investment costs by far ☐ Implementation risks ☐ Use of innovation processes ☐ Other (please specify) Please comment on your selection
Further information (links, sources of information)

3.5 Evaluation criteria

The evaluation of cases identified and reported by project partners will be realized by DLTM (task leader) during the analysis stage. To increase transparency and partners' awareness on the process in advance, this section presents the quality specifications (or else evaluation criteria) that will guide the evaluation of cases on a "good practice" basis and will eventually lead to the identification of the most successful ones to be included in the Good Practice Guide (GPG).

To guarantee cohesion, these criteria will be focused on the basis of the common documentation form to be used for presenting the identified cases, the key findings and conclusions from preliminary desk research (conducted at an early stage to prescribe the main categories of interventions and determine what data is required), and the Interreg Europe Programme good practice approach and definition.

Table 4: Evaluation criteria

Criteria	Description
Relevance	This criterion measures the extent to which the identified case is suited to the priorities and policies focused on the sustainable development and internationalisation of the aquaculture sector. This criterion used to determine confidence or strength of inference that the information can address study objectives. Sometimes referred to as 'weight of evidence'.
Impact	This criterion identifies the benefits delivered and defines the extent to which the practice or tool has positively contributed to Raising the performance and economic potential of the aquaculture sector. The practice should have achieved results that are measurable and well documented.
Problems encountered	This criterion evaluates the dimension of main socio economic and political problems and difficulties that have blocked the successful adoption or/and execution of intervention in the sector. Critical aspects affecting implementation of the stakeholder approach can be: the institutional capacity of stakeholder organizations; legitimacy of the organizations and process, costs of stakeholder involvement, degree of stakeholder competition, and levels at which stakeholders are involved.
Public support	This criterion evaluates the kind of support (e.g. funding, technical support, consultancy services, access to information) provided by public authorities to support the implementation of the intervention identified.
Transferability	This criterion evaluates whether the practice demonstrate strong evidence that it can be also effective for other taxonomic groups, aquaculture realms, and EU regions. To evaluate transferability potential, it is useful to consider the following questions: Are the needs addressed common across aquaculture realms and regions?

3.6 Scoring and classification of practices

Each of the identified cases will receive a score from 1 to 4 with regards to the evaluation criteria described above; this scale will be used to determine the extent to which each case meets these criteria[2]. Depending on the (aggregate) score received in the four evaluation criteria, cases will be classified in three categories; poor, promising and good. The cases to be eventually presented in the Good Practice Guide should obtain a score of at least of 14 points, and hence be categorised as "good". In case of low quality data or irrelevant cases, the inclusion of promising practices will be considered.

Table 5: Classification of practices

Classification	Description	Score obtained
Poor	A poor practice entails constraints during implementation and poor results. Its relevance, effectiveness and potential for transferability for other taxonomic groups, environmental sustainable sectors and regions cannot be proven.	5-9
Promising	A practice that has worked for a taxonomic group and has produced some tangible, measurable results. A promising practice should be transferred in other regions.	10-13
Good	A practice or tool that has proven to work well within a specific context has succeeded in achieving its strategic and operational objectives. A good practice should have brought positive results on contributing to the sustainable development and internationalisation of the aquaculture sector and demonstrate a sustainable and transferable approach.	14-20

[2] Where 1=Not at all, 2=To a small extent, 3=Moderately, 4= To a great extent, 5= Exceptionally

4 Action plan for the implementation of EXTRA-SMEs Activity A1.3

Chart of implementation for the EXTRA-SMEs Activity A1.3 Collect best practices on raising the perceived economic potential of the aquaculture sector							
	Partners / Months	**May 19**	**June 19**	**July 19**	**August 19**	**Sept 19**	**Oct 19**
A1.3 Collect best practices on raising the perceived economic potential of the EXTRA-SMEs sector							
Deliver the methodology for the collection / analysis of cases (draft version)	**DLTM**						
Review research methodology	**All partners**						
Update methodology (final version)	**DLTM**						
Collect cases of interventions on raising the economic potential of the aquaculture sector according to methodological guidelines.	**All partners**						
Deliver to DLTM the completed case documentation forms (with cases) in an integrated and editable file format	**All partners**						
Evaluate the cases collected by project partners against the pre-defined evaluation criteria	**DLTM**						
Develop the Good Practice Guide	**DLTM**						

5 Bibliography

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https://www.oecd-ilibrary.org/docserver/9789264013100-en.pdf?expires=1560419102&id=id&accname=guest&checksum=F35AF73663644BE3D9DD3C79D5AE1E01

Reply,: «A methodology for identify best practices for communication providers": https://www.reply.com/Documents/10937_img_SYTR12_Best_Practice_Methodology_Communication_Providers.pdf

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6 Annex A: NCE Seafood Innovation cluster (example)

Title of the practice	
European Aquaculture Innovation cluster	
Practice Identification	
Category of interventions	○ Business innovation strategies (business model innovation) ○ Business plan ○ Technological Innovations ○ R&D ○ Strategic alliances ○ Capacity building and awareness ○ Other (please specify)
Geographical scale	○ EU wide ○ Macro-Regional (e.g. Mediterranean, Baltic countries) ○ National ○ Regional ○ Local
Location	Norway
Start year of operation	
PRACTICE DESCRIPTION	
What is the intervention about?	
The Seafood Innovation Cluster is a world leading cluster. The members represent the whole seafood value chain and supply healthy and sustainable seafood to the global community. Enabling sustainable seafood is the overall vision. Its primary mission is to build an ecosystem for growth and competitiveness in Norwegian seafood. As a Norwegian Centre of Expertise, it aims to scale up the innovative ecosystem for new knowledge and solutions that will increase sustainability to his members. Its role will be to operate as a backbone organization for the cluster in coordinating and fostering strategic collaboration with all stakeholders, initiating new partnerships and facilitate collaboration processes and activities. The cluster focus on the development and investment in the talent pool and the building of competence in the entire value chain.	
What are the main needs addressed by this initiative?	
The cluster aims to address the main challenges the sector is facing and do not leave to unleash its potential. These are: a) competition in the marketplace; b) limited access to and competition for space, c) sub-optimal use of resources, and d) governance of the sector. Through three business areas (knowledge, innovation, entrepreneurship & commercialization), the cluster pursuing value-creating business opportunities for its members and facilitating a global hot spot for attraction and economic growth.	

What are the main objectives?
- To develop industry-focused strategic research and innovation agendas including technology roadmaps and implementation plans. - To foster networking opportunities with other partners along the value chain to address cross-sectoral challenges and promote the move towards more open models of innovation; - To identify opportunities for international cooperation. - Cluster-facilitated R&D and training activities - To build up new business programs for entrepreneurs and facilities for testing, simulation and visualization to support faster innovation and commercialization.
What kind of support did public authorities provide for the implementation of this initiative?
☐ Tax incentives ☐ Subsidies and rebates ☐ Direct funding ☐ Flexible pricing policy ☐ Loans with preferential terms ☐ Business support services (e.g. training, advisory services) ☐ No support provided by local authorities ☐ Other (please specify)…….
IMPLEMENTATION OF THE PRACTICE
What are the main functions of the practice?
- Knowledge to resolve sustainable challenges. Knowledge sharing and talent development are key factors to our partners to increase the ability and knowledge to use and apply the latest technologies to be able to take action on sustainable growth. The Cluster will focus on activities for increased talent attractivity to seafood education and career in the industry and strengthen young entrepreneurship and innovation. - The industry need more focused research, innovation and technology to improve sustainable seafood production. Faster implementation of digital solutions and new technology in the seafood value chain. Supporting future growth by exploring new ideas, concepts and business opportunities. - Entrepreneurship and commercialization accelerating value creation. The Cluster will strengthen the competence in corporate venture and innovation, entrepreneurship, commercialization and seafood investments. The Cluster will facilitate business programs to support more viable businesses from startups and scale-ups. The Cluster will strengthen the value chain for capital in seafood.
Who initiated the intervention? Who are the key factors involved and support its operation?
The government was the initiator, founding the cluster organisation and supporting clustering services.

What were the financial requirements? How was the practice funded?
- Partners: NOK 300.000 per year - Members: NOK 100.000 per year - Start-up business, up to five years old, with a negative financial result: NOK 5.000 per year
What were the main problems encountered during implementation?
☐ Regulation / limited support by local policy makers ☐ Funding, lack of financial resources ☐ Lack of expertise / skills of existing employees ☐ Lack of motivation and commitment among suppliers ☐ Lack of interest among customers ☐ Economically unsound or risky investments ☐ No problems encountered ☐ Other (please specify)
RESULTS AND TRANSFERABILITY POTENTIAL
Indicate the main benefits sought by aquaculture SMEs from this intervention
☐ Raised public awareness on sustainable aquaculture ☐ Improved capacity to address aquaculture related issues ☐ Contributed to the resolution of environmental and socioeconomic interests ☐ Raised the level of cooperation between public and private sector ☐ Helped to access new markets ☐ Increased productivity ☐ Led to more revenues ☐ Fostered innovation adoption ☐ Other (please specify) **Results:** - Establishment of 4 new business entrepreneurship programs to scale and attract new innovative suppliers to the industry - 135 events and workshops with 3390 cluster members participating in knowledge sharing and innovation workshops - 15 new innovation projects have been initiated between cluster partners (6 of them international) - Development of new industry focused education offers (seafood trainee, MBA, bachelor programs) - New facilities for testing, simulation and visualization to support faster innovation and commercialization - Increased investments in research and innovation at both national and European levels

- Improved aquaculture´s perception and importance to support a more sustainable food system in EU market

What are the main features that make this intervention transferable?

- ☐ Needs addressed are common across European regions
- ☐ Demonstrated achieved benefits outweigh investment costs by far
- ☐ Low Implementation risks
- ☐ Use of innovation processes
- ☐ Other (please specify)

Further information (links, sources of information)

http://www.seafoodinnovation.no/

http://www.seafoodinnovation.no/page/9/Partners_members

http://www.seafoodinnovation.no/page/14/About_Norwegian_Innovation_Clusters