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EXTRA-SMEs
Interreg Europe

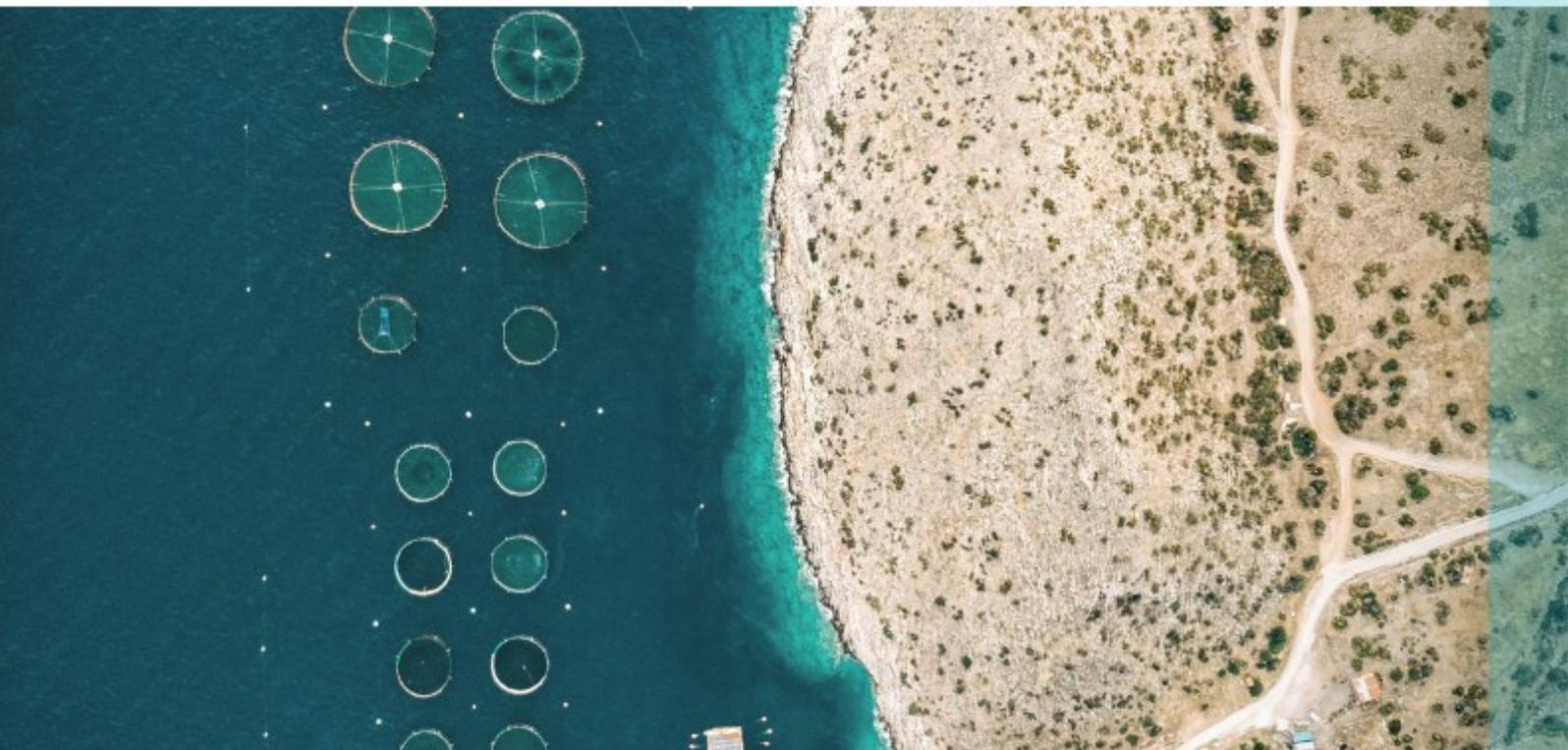
April 2019

COMPARATIVE BASELINE ANALYSIS

ON EXISTING REGULATORY FRAMEWORKS FOR
LICENSING PROCEDURES AND EXTRA-SMEs'
ECONOMIC OPERATIONS

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EXTRA-SMEs - Improving policies to boost SME competitiveness and extraversion in EU coastal and rural areas where aquaculture is a driver of the regional economy

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EXECUTIVE SUMMARY

This deliverable comprises a comparative analysis on EXTRA-SMEs partners' regulatory and administrative frameworks within which the aquaculture value chains in their regions operate. Further to evaluating the current situation, it explores the potential for improvement and provides recommendations for policy advancements based on joint exchanges of experience.

This deliverable is based on the input provided by EXTRA-SME's partners on the 24 questions that resulted from the research methodology developed specifically for the EXTRA-SME's project.

Overall, the research illustrates that there are great differences among the EXTRA-SME's partners' in the size, value, diversification and internationalisation of their aquaculture activities; nevertheless, a common point is the rather low processing activity that takes place in EXTRA-SME's partners regions.

Based on this input, we can overall draw the following conclusions:

1. In all regions, interested investors can find a secure and stable investment environment. However, the information for setting up an aquaculture production or processing enterprise is not easily accessible in all cases.
2. All EXTRA-SME's partners' regions implement rules – EU or national ones – to curb short-sighted investment and to protect public interests, such as the environment and food safety. Nevertheless, the research was not conclusive regarding the implementation of these rules.
3. All EXTRA-SME's partners regions have policies in place that promote the competitiveness, innovation, and internationalisation of their aquaculture value chains. However, there are deficiencies in setting up long-term and comprehensive policies.

1 INTRODUCTION

1.1 The EXTRA-SME's project within the Interreg framework

Interreg is an EU policy learning programme focused on jointly tackling common challenges and finding shared solutions at territorial level. The EXTRA- SMEs project aims at supporting the following partners to improve the competitiveness of their aquaculture value chain:

1. The Region of Peloponnese (REGREL) in Greece
2. The Region of Liguria (LIGURIA) in Italy
3. The Northern Chamber of Commerce in Szczecin (NCC) in Poland
4. The Bucharest-Ilfov Regional Development Agency (ADR-BI) in Romania
5. The Lapland University of Applied Sciences (LAPLAND) in Finland
6. The University of Patras (UPAT) in Greece
7. The Western Development Commission (WDC) in Ireland
8. The Public Institution National Regions Development Agency (NRDA) in Lithuania
9. The Liguria Cluster for Marine Technologies (DLTM), who is an advisory partner for the project, but does not participate in this activity (A.1.1) because the relevant data are collected by the Region of Liguria.

Through the comparative policy analysis prescribed by Activity 1.1, the EXTRA-SME's project will enable these partners to review and – where necessary – revise their policy framework regarding aquaculture, to ensure the following:

1. That they offer to existing and new investors a stable, transparent and secure investment framework to set up and scale-up investments in aquaculture.
2. That they curb short-sighted investment through a well-balanced regulatory framework that protects environment and consumer safety.
3. That they support aquaculture SMEs in their efforts to innovate, internationalise and attract skilled labour, as these are the main drivers for improving competitiveness.

1.2 The deliverable

This deliverable builds on the research methodology that was developed earlier within activity A.1.1 of the EXTRA-SME's project. The research methodology was based on the following question:

Does the policy mix in my region enable SMEs involved in the aquaculture value chain to become part of international high-quality value chains?

The research methodology broke the research question into 24 specific questions aiming at supporting EXTRA-SME's partners in building up their knowledge on the current policy mix in their region and the situation of the local aquaculture value chain.

The current deliverable is a comparative analysis report; comparative policy analysis examines policy decisions related to a specific issue, in this case aquaculture, as well as patterns in day-

to-day interactions among policymakers of different jurisdictions. It helps at constructing, testing, and refining good practices in comparative perspective.

In this framework, the deliverable provides a comparative review of the answers provided by the EXTRA-SMEs partners to the 24 questions of the methodology. Thereby, it compares policies applied on each policy field in different regions, recommends best practices, and draws conclusions, as well as suggestions, for further action. Eventually, it is anticipated to enable EXTRA-SMEs partners to innovate in their policy mix by integrating successful elements used by each other, or even avoid past mistakes.

Finally, this deliverable could potentially support EXTRA-SMEs partners to prepare their input for the multiannual national plans that are due in 2020 within the EU's Open Method of Coordination (OMC) for aquaculture.

1.3 Data collection design and procedure

As stated above, the research methodology broke down the research question in 24 brief questions to be answered by the EXTRA-SME's partners.

The questions were selected in a way that the answers would give a good overview of the EXTRA-SME's partners aquaculture value chain and the applicable policies to boost competitiveness.

On the same time, the questionnaire was formulated in a way that could be answered through desk research from the EXTRA-SME's partners; partners were also asked to contact officials working in other administrative levels, such as ministries, in order to provide answers regarding policies designed at national level.

In this framework, it was acknowledged that public authorities often face difficulties in collecting detailed data about the operation and results of enterprises in their regions. This may happen because there is no obligation for enterprises to share these data with authorities or because the territorial statistical data are lagging behind.

Therefore, the EXTRA-SME's partners answered two types of questions:

1. Baseline questions requesting for data that public authorities usually have in their disposal.
2. Questions for deeper understanding, that EXTRA-SMEs partners may have not been able to answer, as they referred to practices and procedures that they may not be aware of.

The questions covered most of the aspects that the desk research revealed as relevant to the modern aquaculture value chain. However, some aspects were not covered by the questions as thoroughly as others. This was decided, either because they did not seem as important for the research scope, or because it was considered hard for EXTRA-SME's partners to obtain relevant data. For example, there is no question regarding the species of fish produced in each region or the most common method of fish slaughtering.

Finally, EXTRA – SMEs partners were invited to provide the latest available data (2018 or 2017). When not possible, the latest available data, with an indication of the reference year, were accepted.

1.4 Constraints of the deliverable

Having defined the design and limitations of the questionnaire, it is equally important to mention the constraints of this deliverable, so that EXTRA-SME's partners take them into consideration when assessing the results and recommendations.

Firstly, the answers provided by the EXTRA-SME's partners were not always comparable. For example, the data provided for describing the existing aquaculture value chain are not always in the same format or from the same reference year.

Secondly, some answers refer to policy measures without explaining their goals and means to achieve them. As a result, it was difficult to assess their effectiveness and suggest them to other EXTRA-SME's partners as good practices.

Thirdly, it is important to note that in many cases some EXTRA-SME's partners went in greater detail than others in describing their relevant policies. Therefore, often these are used as an example of a good practice in a policy framework. However, others may have similar policy frameworks. Therefore, it is recommendable that EXTRA-SME's partners discuss over the results of the written input to expand their understanding of each other's policies.

Finally, this deliverable has been drafted without input from REGPEL; should this input become available, a revised version can be developed.

2 AQUACULTURE VALUE CHAINS

2.1 Aquaculture value chains today

The desk research conducted in the framework of the research methodology, illustrated that today the aquaculture value-chains consist typically of feed production, aquaculture production, transport, slaughtering, processing and then distribution to consumers, either as food or other types of products.

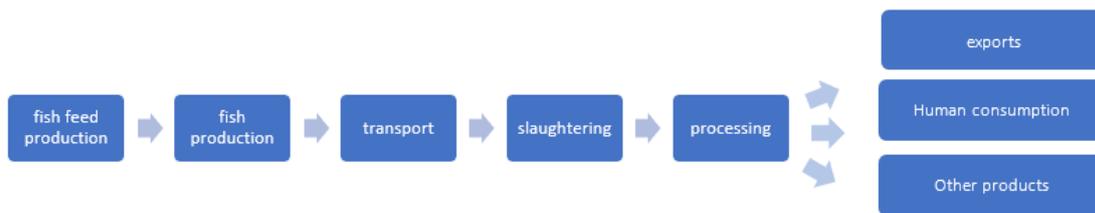


Figure 1 Aquaculture value chains today

Therefore, this deliverable and the research methodology tried to assess all the steps of the modern aquaculture value chains. The deliverable focuses mostly on fish and fish feed production, as well as processing. The latter may include slaughtering, which is the first step of fish processing.

2.2 Aquaculture value chains in the EXTRA-SME's partners' regions: a comparative presentation

According to the input received by EXTRA SME's partners, there are great variations in the volume and value of aquaculture production and processing among their regions. Lapland has the smallest aquaculture activity, while NCC has the largest in terms of number of enterprises, output in tonnes and economic value.

Furthermore, all EXTRA-SME's partners have an important percentage of SMEs. In particular, in ADR-BI, NRDA and Lapland, all aquaculture enterprises are SMEs.

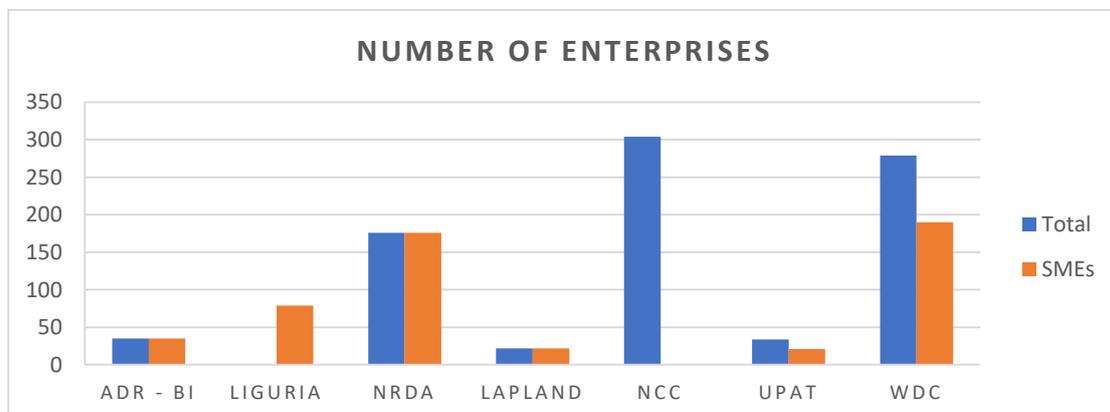


Figure 2 Number of enterprises & SMEs in EXTRA-SME's partners' regions

Moreover, the number of enterprises does not necessarily correspond to the output in terms of value or tonnes of products. Therefore, we can assume that there are differences in the productivity of among regions. For instance, WDC produces value of €208.000.000 with 279 enterprises, while UPAT's region produces value of €141.087.000 with only 34 enterprises.

	Production value (millions of euro)	Production (tonnes)	Number of enterprises
ADR - BI¹	20	10980	35
LAPLAND	3	577	22
LIGURIA	6	1020	
UPAT	141	96188	34
WDC	208	47147 ²	279
NRDA	851	141207	176
NCC	2.414	35000	304

Figure 3 Aquaculture production value and size in EXTRA-SME's regions

Equally, the exports' percentage varies vastly among the regions. While LAPLAND and NCC report very small export activity, UPAT and NRDA export more than 70% of their production.

Finally, in most regions fish production is the main activity of enterprises in the aquaculture value chain. The only exception is Lapland where processing plays an important role.

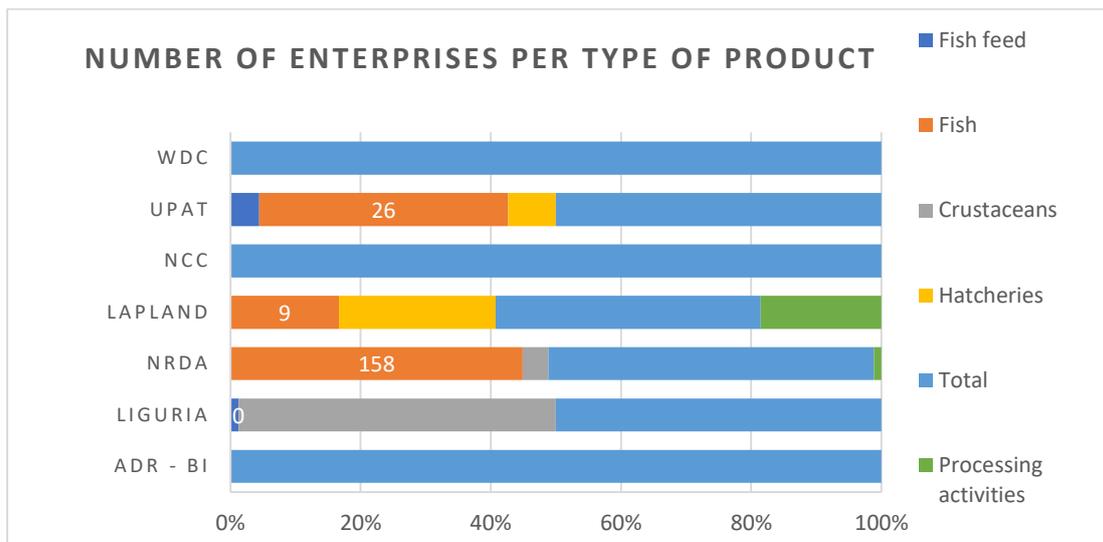


Figure 4 Diversification of products within EXTRA-SME's regions

However, it is worth noting that only UPAT mentioned synergies among aquaculture enterprises. In this region some smaller aquaculture producers are in synergy with producers that own processing units or berthing facilities.

Therefore, we can assume that EXTRA-SME's partners have great potential to improve synergies among the local actors of the aquaculture value chain. Thereby, they could also improve the diversification of aquaculture products of their region.

¹ National data

² National data

Recommendations

In a nutshell, we see great differences among the EXTRA-SME's partners' in the size, value, diversification and internationalisation of their aquaculture activities.

Therefore, this deliverable should be used by EXTRA – SMEs partners as an opportunity to discuss and assess the most efficient measures to boost the competitiveness of their aquaculture value chain.

Moreover, the EXTRA-SME's partners should seek to learn from the best practices that enabled:

1. Lapland to ensure a sound processing activity, as processing increases the value added of aquaculture and it also allows products to enter global high-quality value chains.
2. UPAT and NRDA's regions to export significant parts of their aquaculture products, as new markets allow enterprises, and particular SMEs, to increase their income and to learn from getting exposed to global markets and competition.
3. UPAT's region to develop synergies. These are important to promote the multiple use of capital investment and innovation, through the cooperation among economic actors active in different parts of the value chain.

3 COMPARATIVE PRESENTATION OF EXTRA-SME'S PARTNERS POLICY FRAMEWORK FOR AQUACULTURE

As discussed in the previous deliverable, a sound regulatory framework in aquaculture comprises the following elements:

1. A stable and predictable regulatory environment, which enables investors to feel secure in starting new ventures or expanding existing ones. This includes provisions relevant to the purchases and use of land, such as spatial planning and the existence of a public registry for land possession.
2. A regulatory framework that promotes long-term investment, by curbing short-sighted ventures, as well as protecting the environment and consumers.
3. A policy mix that promotes the competitiveness by supporting internationalisation and innovation efforts, as well as offering skilled labour.

The first two aspects act as a foundation for the establishment and stable operation of aquaculture enterprises. Therefore, competitiveness policies that do not address shortcomings in these aspects would not reach their full potential.

3.1 Setting a predictable and stable framework for investors in the EXTRA-SME's regions.

This section of the deliverable analyses three aspects of the regulatory framework that can bring stability and predictability to investors in the aquaculture value chain:

1. A clear framework for property rights and claims based on a comprehensive property register
2. A spatial planning that is well adapted to the needs of aquaculture activity, as well as of the usual neighbouring activities and to the environment
3. A transparent system for awarding and revising permits for aquaculture production and processing units.

This section aims at improving EXTRA-SME's partners knowledge of each other's regulatory frameworks and thereby identifying shortcomings in their systems that could be potentially overcome.

3.1.1 Clear property rights

Clear property rights, including a transparent and comprehensive property register, are necessary to prevent lengthy land claims and to provide stability to investors. Most EXTRA-SME's partners have a property register in place. However, their approaches to it and its availability to interested investors differ.

- In Romania (ADR-BI) and in Lithuania (NRDA) there are complete and easily accessible property registers.
- In Ireland (WDC) there is a central authority responsible for the registration of property transactions.
- In Finland (Lapland), there is a detailed aquaculture register. However, it is for official purposes and not even local authorities have access to it.
- In western Greece, investors can submit a request to the competent service in order to lease the sea area that they are interested in. Under the coming spatial planning

rules, the available areas for sea farming will be certain, accurate and delimited. Moreover, the hatcheries, processing units or inland aquaculture are founded either on private properties or leased by private or public.

Recommendation

It is recommendable, that all EXTRA-SME's partners take up the examples of ADR-BI, NRDA and WDC, as regards the establishment of a complete, public and easily accessible property register. This would allow potential investors to allocate the land that they require for their investment and to avoid unnecessary judicial claims.

3.1.2 Spatial planning

A comprehensive spatial planning is important for attracting investors in the aquaculture value chain, because it clarifies where production and processing activities can take place. It also prevents frictions with other economic activities. Finally, it promotes sustainability by ensuring that environmentally protected areas are not negatively influenced by aquaculture activities.

The EU [Maritime Spatial Planning Directive](#) aims to reduce conflicts about land use between sectors and create synergies between different activities. It also aims to increase cross-border cooperation and protect the environment. In the framework of this Directive, EU Member States have also to present their spatial planning until 2021.

All EXTRA-SME's partners have spatial planning for maritime areas³, except of Poland and Romania where plans are underway. Moreover, currently several EXTRA-SME's partners are reviewing or expanding their spatial planning. Some are in the process of preparing the presentation of their planning at EU level, as requested by the Directive.

Recommendations

Firstly, EXTRA – SMEs partners should ensure that they conclude their spatial planning, so as to increase predictability for investors, to reduce frictions among economic operators and to protect the environment.

Furthermore, they are encouraged to follow the best practice of Ireland (as presented by WDC), where spatial planning has the following rules:

- To give coastal communities and other stakeholders a clear role in determining how we plan for current and future uses and treatment of our marine territory
- To reduce conflicts between sectors and create synergies between different activities
- To encourage investment by creating predictability, transparency and clearer rules
- To increase cross-border cooperation between EU countries to develop energy grids, shipping lanes, pipelines, submarine cables and other activities, but also to develop coherent networks of protected areas
- To support sustainability through early identification of impact and opportunities for multiple uses of space.

³ For more information on the spatial planning of EXTRA SME's partners, please consult question 10 in the working group

3.1.3 Operation permissions & renewals for production facilities

This section examines the regulatory frameworks of EXTRA-SME's partners for obtaining and reviewing permissions for aquaculture production.

While there is no EU-level rule for assessing and granting permissions for aquaculture production or processing, there are several EU Directives that establish relevant criteria. For instance, permissions are assessed against the [Water Framework Directive](#) (2000/60/EU)⁴, the [Marine Strategy Framework Directive](#), the [Habitat Directive \(92/43/EEC\)](#) and the [Birds Directive](#). Moreover, intensive fish farming projects and fishmeal processors have to undergo environmental assessment according to Directive [2011/92/EU](#). This may induce substantial costs to the establishment of aquaculture or processing units.

The answers of EXTRA-SME's partners illustrate that they have developed diverging methods for implementing these rules, alongside any national ones. For instance, not all EXTRA-SME's partners have a specific permission system for aquaculture production units. Moreover, in some EXTRA-SME's partners regions, the permission authority is national, such as a ministry, while in others, the competence lies at regional level.

On the contrary, the rules according to which a review of an aquaculture production permission is necessary, are aligned among the EXTRA-SME's partners. In particular, all EXTRA-SME's partners require a renewal of the permission in case the aquaculture production unit takes up more intensive farming, new activities or expands its premises.

Moreover, all EXTRA-SME's partners, but NCC, provide permissions of a maximum duration. The permissions' maximum duration varies significantly. In NRDA's region, permits may last only 5 years, while UPAT explains that in Greece permits are given for 20 years.

Furthermore, the cost of the permissions varies immensely among EXTRA-SME's partners. Nevertheless, it is important to note the indirect costs of obtaining a permission. WDC listed certain indirect costs in their response, such as:

- Developing a business plan for obtaining financing
- Drafting an environmental impact assessment plan (where applicable)
- Obtaining a planning permission for the land-based applications
- Obtaining a water discharge licence (land-based applications)
- Obtaining a water and other analysis report
- Publishing notices in newspapers
- Acquiring engineering drawings
- Consultant and/ or legal professional fees

The above costs can vary collectively. WDC estimated them as starting from €1.000 for an on growing shellfish licence applicant up and reaching up to €100.000 for a marine on growing finfish applicant who is required to commission an environmental impact assessment.

Finally, only Liguria and WDC provide guidance for the permission process. This is unfortunate, as guidance documents contribute to predictability and transparency for interested investors.

Below you may find a table that combines various aspects of granting a permission in the EXTRA-SME's partners regions, as illustrated several questions answered by the EXTRA-SME's partners.

⁴ The Water Framework Directive is expected to start being revised in 2022, see more [here](#)



Procedure and cost for obtaining an aquaculture production licence in EXTRA-SME's partners regions

	Procedure	Cost	Duration
ADR - BI	<p>In Romania there are no special permits or licenses required for aquaculture production. However, there are veterinary approval numbers for aquaculture pond enterprises, for the environmental impact assessment of the proposed economic activity and for farm operators engaged in aquaculture activities.</p> <p>Only aquaculture activity that can have a significant environmental impact must be controlled by permits. The limits of the criteria set out in the permit indicate what specific aquaculture activities are planned to be covered by this permit.</p> <p>Different types of criteria are used, such as the size of the pools, the amount of planting material to be used, the planned annual production volume. Permit limits vary considerably. The authority who supervises this activity is the National Agency for Fisheries and Aquaculture.</p>		There is a time limit
LIGURIA	<p>The permit is given by municipalities. Each municipality can design its own regulatory framework and guidelines. LIGURIA's regional regulation is (DGR 1415 30/11/2007). There is regional guidance that drives the path and clarifies most of the procedure's aspects</p>		There is a time limit
NRDA	<p>All aquaculture production activities need to provide information for:</p> <ul style="list-style-type: none"> ▪ the veterinary approval numbers for aquaculture pond enterprise ▪ the environmental impact assessment of the proposed economic activity (from 5 ha or, if the area of the planned facility is greater than 0.5 ha) ▪ farm operators engaged in aquaculture activities. <p>Only aquaculture activity with significant environmental impact is subject to permits. The permits indicate the details of the aquaculture activities covered by this permit. This includes aspects, such as the pools' size, the amount of</p>		5-10 years



	planting material to be used and the planned annual production volume.		
LAPLAND	<p>The procedure to obtain a permit requires the following steps:</p> <ol style="list-style-type: none"> 1. Permit application to authority 2. Supplements (if asked) 3. Publication of the application 4. Statements and complains and opinions (open for all the affected persons and organisations) 5. Written reply from the applicant 6. Permit consideration, decision and publication 7. Appellate procedure <p>This procedure leads to a legally valid permit. Complaints against such decisions may be made to the Administrative Court and then (if applicable) to Supreme Administrative Court. The procedure will normally take 1-2 years plus the time to address possible complains at the court.</p>	<p>The cost varies according to the planned production limits:</p> <p>100 tonnes or more: about €20.000</p> <p>30-100 tonnes: about €12.000</p> <p>2-30 tonnes: about €8.000</p>	Variable length
NCC	<p>The applicant applies for a permit to breed marine organisms or restocking in Polish sea areas to the Minister of Maritime Economy and Inland Navigation.</p> <p>If the application is correctly completed and issuing the permit does not pose a threat to the sustainability or balance of the marine environment, the Minister will issue a permit in accordance with the data contained in the application.</p>	A small fee must be paid.	No
UPAT	<p>The permission procedure is the following:</p> <ol style="list-style-type: none"> 1. Submission of the request to the competent service (Directorate of Rural Affairs of Western Greece, Decentralized Administration of Peloponnese, Western Greece and Ionian Islands) with a file of accompanying documents, such as topographic diagrams and a techno-economical study 	The cost is about €1.000-2.000	20 years



	<ol style="list-style-type: none"> 2. Transmission of the file to interdisciplinary services for an opinion about the request accordingly their responsibilities 3. Issuance of resolving resolutions for the letting of sea area 4. Submission of the file for environmental approval 5. Submission of the file for veterinary leave 6. Issuance of a decision approving environmental terms and a veterinary authorisation 7. Issuance of a permit for leasing the requested sea area and of the operating licence. 8. A veterinary code is given, which is specific for each unit. 		
<p>WDC</p>	<p>Aquaculture licensing is administered through the Aquaculture and Foreshore Management Division of the Department of Agriculture, Food and the Marine.</p> <p>The Division also processes companion foreshore licences required for coastal aquaculture operations. The Minister for Agriculture, Food and the Marine decides on applications made to the Division on the approved application form and accompanied by the appropriate fees.</p> <p>Any person who engages in aquaculture without a licence or who breaches the terms of a licence may be prosecuted through the Courts. Penalties can be severe and in addition to any fine imposed by the Court, the Minister may, by Order, also require the person convicted to remove any structures and/or equipment. Licences are typically issued for 10 years. Guidance notes for applicants and application form can be found here</p>	<p>The cost of obtaining and maintaining an aquaculture licence varies with the type of aquaculture proposed between €95.23 and €634.87</p> <p>There are also significant indirect costs (indicated above)</p>	<p>10 years standard, but can be up to 20</p>

Figure 5 Procedure and cost for obtaining an aquaculture production licence in EXTRA-SME's partners regions

Overall, this table illustrates the diverging approaches of EXTRA-SME's partners in requiring and granting permits. While it is not possible to assess from the input received which process is more effective, we can draw the following recommendations for all EXTRA-SME's partners.



Recommendation

Firstly, it is important that all EXTRA-SME's partners develop guidance for the permission process to improve the predictability and transparency of the process for all interested investors. The guidance should include the criteria and steps for granting and revising permits, as well as a list of the cases where no permit is required. Ideally, the guidance should include information for all the aspects of a permit, such as veterinary requirements, spatial planning requirements and environmental impact assessment.

Secondly, it is important that EXTRA-SME's partners calculate the cost of acquiring and revising a permit in a comprehensive way that includes direct and indirect costs. The example of WDC can be followed as a best practice. This lists the following indirect costs:

- Developing a business plan for obtaining financing
- Drafting an environmental impact assessment plan (where applicable)
- Obtaining a planning permission for the land-based applications
- Obtaining a water discharge licence (land-based applications)
- Obtaining a water and other analysis report
- Publishing notices in newspapers
- Acquiring engineering drawings
- Consultant and/ or legal professional fees

Thirdly, EXTRA-SME's partners should compare their experience on the ideal duration of a permit and discuss the rationales behind the large differences of maximum permit duration (from 5 to 20 years) among them.

Finally, it is important that EXTRA-SME's partners discuss whether the rules for granting a permit should be established at regional or national level. Overall, national rules promote the predictability of investment. On the other hand, regional rules may allow for more flexibility.

3.1.4 Permission renewals for aquaculture processing facilities

As in the permissions for aquaculture production, there are also great differences in the EXTRA-SME's partners requirements for obtaining permissions for processing units for aquaculture products.

ADR-BI, LIGURIA and NCC do not differentiate the permission procedures between production and processing units. The other EXTRA-SME's partners have diverging permission procedures among them. For instance, in Lapland a simple permission regarding food processing from the municipality suffices. On the other end, NRDA reports that permits cover several aspects, such as environment, water, veterinary and building permissions.

Below you may find a comprehensive table that describes the procedures for granting an operation permission for processing units in the EXTRA-SME's partners.

Procedure for obtaining an aquaculture processing licence in EXTRA-SME's partners regions

Procedure	
ADR-BI	Same procedures as for aquaculture production
LIGURIA	Same procedures as for aquaculture production
NRDA	<p>Getting started often requires several concurrent permits, such as an environmental permit, a water permit, a veterinary service permit, and a building permit. Questionnaires for permission applicants vary considerably depending on whether they are requested general environmental permit or special permit for aquaculture activities. Most common conditions are as follows:</p> <ul style="list-style-type: none"> • Water use needs & volumes of resistances or pools • General requirements for pollution control • Feed quantities and their characteristics • Quantities of nutrients released into the environment • Allow species to grow • Fish farming techniques and methods • Veterinary requirements <p>In most cases, the permit is temporary and is valid for an average of 5 to 10 years.</p>
LAPLAND	Fish processing requires permission from the food inspection authority (Municipality level). This is a simple and non-expensive permit. However, the standards for the facilities are high and therefore require substantial investment.
NCC	Same procedures as for aquaculture production
UPAT	<p>There are two permits for processing units. One operating licence is given by the Directorate for Development of Regional Unity and one by the veterinary authority. The operating licence (Law 3982/2011) foresees that after submitting the application with the necessary documents, an installation approval is issued. This is subject to the veterinary leave, the notification of operation and an autopsy from the competent service.</p> <p>Starting the production is subject to obtaining a veterinary code is given. The cost of the permit is about €5.000</p>



WDC

The Foreshore Acts require that before starting works or activity (including the erection of any structures) on State-owned foreshore, a licence or lease must be obtained from the Minister for Agriculture, Food and the Marine for works undertaken on the foreshore. These are deemed to be any function in relation to a fishery harbour centre and any function in respect of the following:

- An activity which is wholly or primarily for the use, development or support of aquaculture, or
- An activity which is wholly or primarily for the use, development or support of sea-fishing including the processing and sale of sea-fish and manufacture of products derived from sea-fish.

Such a lease or licence is subject to an annual rental payable to the Exchequer. Foreshore is the land and seabed between the high water of ordinary or medium tides (shown HWM on Ordnance Survey Maps) and the twelve-mile limit (twelve nautical miles is approximately 22.24 kilometres).

Figure 6 Procedure for obtaining an aquaculture processing licence in EXTRA-SME's partners regions

The table shows that EXTRA-SME's partners have diverging processes for granting permissions to processing units relevant to aquaculture activities. As discussed above, processing activities are key for increasing the added value of local aquaculture and allowing it to enter high-level global value chains. Therefore, EXTRA-SME's partners need to simplify as much as possible their procedures, as well as improve the transparency and predictability of the permission process.

Recommendation

A simple, transparent and financially accessible procedure for granting processing units permissions is an important tool for facilitating investments in the area of aquaculture processing. Therefore, EXTRA-SME's partners should review their permission processes to ensure that all administrative steps are necessary for the protection of public goods covered by the permit.

Secondly, EXTRA-SME's partners need to provide information to interested investors about the procedure of acquiring a permit. This should include a calculation of the cost for acquiring the permit, adding up all relevant direct and indirect costs.

Finally, EXTRA-SME's partners should discuss which public goods are protected by the permission procedure, so as to examine whether they could align their requirements for granting permissions. This would significantly increase the predictability for interested investors in all the EXTRA-SME's regions. Thereby, it could promote cooperation and synergies among the EXTRA-SME's regions.

3.2 Regulatory framework that promotes long-term investment

A regulatory framework for aquaculture's operation that prevents short-sighted business behaviour is a prerequisite for a competitive aquaculture sector. It includes policies designed to ensure that aquaculture is established and operates in a way that promotes certain public goods, such as food safety, food security, biodiversity and water quality.

The regulatory framework for the permissions for aquaculture production and processing units already partly fulfils these criteria, as it requires environmental impact assessments and veterinary evaluations.

Moreover, in the EU there is a comprehensive framework for protecting food safety, as well as on the labelling and traceability of aquaculture food products. In particular:

- Fish and crustacea marketed in the EU as food need to abide to the [General Food Safety Regulation 178/2002/EU](#) both in terms of safety and traceability.
- [Regulation 1169/2011/EU](#) sets the minimum labelling obligations all food placed in the EU's market, including nutritional information. For example, fish labelling should state whether it is "formed fish", if it is defrosted and which substances related to allergies it may include.
- The [Common Organisation of the Markets](#) establishes the specific information that must accompany fishery and aquaculture products sold to consumers and mass caterers.
- Rules for organic aquaculture: [Commission Regulation \(EC\)710/2009/EC](#), [Regulation 889/2008/EC](#) and Council Regulation 834/2007/EC

All EXTRA-SME's partners have regulatory frameworks⁵ in place that conform to the EU legislation on consumers' safety, as well as on the labelling of fish & crustaceans. Many also commented that they ensure the tight implementation of these rules.

Recommendation

All EXTRA-SME's partners implement fully the EU rules on consumer safety and labelling. This is important for ensuring a high level of protection in the EXTRA-SME's partners region.

The implementation of EU rules also enables aquaculture enterprises to benefit fully from the EU's Single Market, as their products can be accepted in all EU Member States and other regions that maintain the same safety and labelling standards.

Therefore, EXTRA-SME's partners are encouraged to discuss which are the best options for the full implementation of consumer safety rules, including seminars, guidance documents and stronger market surveillance.

⁵ For the detailed answers of EXTRA-SME's partners see questions 14 and 15 in the annex.

3.3 Promoting competitiveness

This section analyses four types of policies that can boost the competitiveness of the aquaculture value chains in the EXTRA-SME's partners regions. These are supporting entrepreneurship, innovation, extraversion and improving the skillset of local labour.

EXTRA-SME's partners can use this section to develop jointly best practices and to review their policy mix in a way that could efficiently support the aquaculture enterprises in their region.

3.3.1 Supporting entrepreneurship

Programmes supporting entrepreneurship enable businesspersons to take calculated risks, to set up an SME or to grow an existing one. Moreover, they provide the necessary financing and funding required for such activities.

In the EU, there are several programmes supporting SMEs to expand their activities, such as the [Start-up and Scale-up Initiative](#) and the [COSME programme](#). There are also funds for sector specific activities, such as the [European Maritime and Fisheries Fund \(EMFF\)](#) and the [scaling up the circular economy initiative](#).

All EXTRA-SME's partners have developed supportive frameworks to entrepreneurship that blend national and EU funds. For example, NRDA, NCC and UPAT apply EU funding and national policies. Liguria applies the EU EMFF instrument together with regional laws are the pillars for any SME who has the intention to start a new business.

Nevertheless, only WDC refers to a comprehensive framework for entrepreneurship. In Ireland, Enterprise 2025 sets the strategic framework across government departments to focus resources to deliver sustainable enterprise growth and jobs. These strategies include:

- The transformation and change in the performance of new companies in Ireland to help embed a culture of innovation and continuous change
- Strong locally trading and employment intensive enterprises to improve competitiveness
- Stimulate job creation throughout Ireland so that unemployment in each region is within one percent of the State average.
- Moreover, the National Policy Statement on Entrepreneurship in Ireland aims to:
- Increase the number of start-ups by 25% (3,000 more start-ups per annum)
- Improve the capacity of start-ups to grow to scale by 25%
- Increase the survival rate in the first five years by 25% (1,800 more survivors per annum)

These targets have been carried forward into national enterprise policy as measures in which Ireland expands the pipeline of start-ups and develops hubs in which the regions stimulate innovation, collaboration and sustainable growth. These include:

- Increase the number of start-ups measured by the number of enterprise births per annum to 18.848 by 2020, (18,100 in 2015)
- Survival rate of start-ups (5 years) economy -wide measured by the increase in number of enterprises surviving to 5 years by 25% to 12,495 by 2020 (9,331 in 2015)
- Increase in scaling activity measured by Enterprise Ireland Firms with greater than €3m sales out of Ireland to 1.100 by 2020 (1,003 in 2015).

WDC also offers a variety of access to finance instruments which have been used by the aquacultures sector to grow businesses.

Finally, UPAT refers to specific constraints that discourage entrepreneurship despite the existing support measures. These are namely the product price fluctuation, the lack of data sharing, the ineffective legal framework, the absence of generic marketing and the poor technical improvement on farming. These seem to often discourage investments in aquaculture value chain, where large scale business cost about €500.000-1.000.000 to launch.

This table illustrates that while all EXTRA-SME's partners have a framework to support SMEs, they have diverging levels of comprehensiveness to the support framework. For instance, WDC reports that Ireland has a strategic framework for entrepreneurship, within which the support for SMEs falls. Moreover, Ireland maintains a policy with specific goals in the birth, survival and scaling rates of its SMEs by 2020.

Recommendation

Firstly, it is important that EXTRA-SME's partners review the constraints against entrepreneurship in their regions. The reasoning provided by UPAT about the product price fluctuation, the lack of data sharing, the ineffective legal framework, the absence of generic marketing and the poor technical improvement on farming, may apply to the other EXTRA-SME's partners as well.

Secondly, it is important to identify how the support offered to SMEs fits into the national and regional framework for entrepreneurship. A good practice to this end is to set specific goals, either qualitative or quantities, such as the case of Ireland (WDC).

Finally, it is important to review and discuss whether policies specific to aquaculture SMEs are more efficient than horizontal policies.

3.3.2 Innovation

Innovation is the main driver of growth in advanced economies. Therefore, it plays a very important role in improving the competitiveness of EXTRA-SME's partners aquaculture sector.

Moreover, it gives EXTRA-SME's partners advantages against low-cost aquaculture production regions globally. Innovation may lead to product diversification, more synergies, less operating cost and better use of existing resources.

In response to this, the EU offers a large variety of support mechanisms for innovation activities of enterprises and particularly for SMEs. A list of the measures can be found [here](#). Moreover, sectoral support measures also include funding for innovation in the relevant sectors.

All EXTRA-SME's partners have a framework for providing support to innovative projects in the field of aquaculture. These are often the result of a blend of EU, national and local funding.

Moreover, the EXTRA-SME's partners have regulatory frameworks that do not act counterproductively against innovation in aquaculture related sectors, such as biology, biotechnologies, zootechnics, and circular economy⁶.

⁶ For more information, see question 17



Innovation support frameworks at the EXTRA-SME's partners regions	
ADR-BI	Enterprises in the aquaculture value chain have possibility to receive support from EU and national funds or regional support from local government.
LIGURIA	There are many sources of funding for innovative value chain in aquaculture that represent a valid help to new plants. These are EU EMMF fund, EU ERDF fund and other regional funds that encourage the R&D development in the field.
NRDA	Companies have the possibility to receive the support from EU and national funds or regional support from local government. In NRDA are two research institutions which are oriented to the research and innovations of aquaculture sector: Klaipeda university, Research Institute "Slėnis Nemunas" and Aleksandras Stulginskis University.
LAPLAND	The normal procedure for innovation applies. EMFF can also be used.
NCC	<p>Financial aid for entrepreneurs is mainly provided under the Operational Program Fisheries and Sea 2014-2020 (AFTER FISH 2014-2020) and in particular by Priority II focusing on supporting environmentally sustainable, innovative, resource-efficient, competitive aquaculture, based on knowledge.</p> <p>The general objective of Priority 2 is to achieve and maintain Poland's leading position in the EU in the production of fish from inland aquaculture.</p> <p>As part of the general sectoral activities, support covers operations aimed at increasing production, increasing the profitability of aquaculture entities and strengthening planning.</p> <p>These activities are co-financed aiming to develop and introduce in aquaculture farms new or improved management systems, as well as technical, scientific and organisational knowledge.</p> <p>The assistance provided under the measure "Innovation" action is intended for the development, testing and implementation of new technological or organizational solutions that increase the efficiency and competitiveness of aquaculture farms.</p>
UPAT	<p>The enterprises can receive support for innovation through the action "Innovation in aquaculture" from the Operational Programme of Fisheries and Sea under the European Maritime and Fisheries Fund.</p> <p>The action has as thematic target the improvement of competitiveness the SMEs in aquaculture and with main criteria the synergy between farms and research centres and a high percentage of funding for SMEs. The innovation activities focus on:</p> <ul style="list-style-type: none"> the development of technical, scientific or organisational knowledge on aquaculture farms, which will limit the impact on the environment, reduce dependence on fishmeal and fish oils, enhance sustainable use of resources in aquaculture, improve animal welfare or will facilitate new, sustainable, innovative production methods



- the development or introduction of new aquaculture products with good market prospects, new or significantly improved products or improved processes, new or improved management and organization systems
- the investigation of the technical or economic feasibility of innovations, products or processes

Moreover, there are several programmes and institutes that seek to tackle the structural weaknesses in Greece.

Finally, the Hellenic Foundation for Research and Innovation is a new institution which aims to substantially reform research and innovation in Greece.

The primary government agency responsible for commercial fisheries and aquaculture development in Ireland is An Bord Iascaigh Mhara (BIM). Údarás na Gaeltachta also has a role in the development of aquaculture in the Gaeltacht regions.

BIM presently operates several aquaculture grant schemes which are designed to modernise the sector, improve efficiencies and develop a sustainable aquaculture industry. All schemes are aimed at aquaculture operators who are in the SME sector.

Additionally, BIM provides expert and hands-on technical support to the aquaculture sector in the form of technology transfer, advisory workshops and training services.

The Marine Institute is the national agency responsible for Marine Research, Technology Development and Innovation (RTDI). It supports the marine, fisheries and aquaculture sectors.

The Marine Institute is mandated to undertake, coordinate, promote and assist in marine research and development in accordance with the Marine Institute Act 1991.

WDC

The Institute acts as the implementing body, on behalf of its parent department DAFM, for dedicated marine research funding. The Institute tracks and provides notification of research funding opportunities from agencies including, but not limited to: Science Foundation Ireland, the Irish Research Council, Enterprise Ireland, the Environmental Protection Agency, the Sustainable Energy Authority of Ireland, the Geological Survey of Ireland and InterTrade Ireland.

Nationally, there are additional support bases of research providers including universities, institutes of technology and several private research units supporting the research needs of Irish aquaculture.

These include Aqua TT Ltd, University College Cork (Coastal and Marine Resource Centre/Aquaculture and Fisheries Development Centre/Zoology Ecology and Plant Science), National University of Ireland Galway 65 (Martin Ryan Institute), Trinity College Dublin, Dundalk Institute of Technology, Institute of Technology Sligo, Cork Institute of Technology and Daithi O'Murchu Marine Research Station/Indigo Rock Research Station.

Other research providers to the Irish aquaculture sector, some of which are also project participants as SME's, are - Cartron Point Shellfish Ltd, Clew Bay Marine

Forum, Clew Bay Oyster Group, Atlantic Shellfish Ltd, Teagasc, Athlone Institute of Technology, University of Limerick, Galway Mayo Institute of Technology, Queen's University Belfast/ Portaferry Marine Laboratory, University of Ulster, University College Dublin and Dublin City University.

Figure 7 Innovation support frameworks at the EXTRA-SME's partners regions

The policies in support to research have produced results in most EXTRA-SME's partners regions.

Firstly, in Liguria there is an innovative offshore aquaculture process.

Secondly, NCC reports that in the West Pomeranian region in Poland there is a company that deals in salmon farming. It is called Jurassic Salmon and uses thermal water for its production. This water has several micro and macro elements whose presence positively affects the health and condition of fish and the quality of meat. It is worth noting that this is the largest plant of this type in Europe and that it has introduced several innovative solutions.

Thirdly, in WDC two companies have recently been awarded funding under the Marine Institute's Industry-led Award scheme. The companies will use the funding to develop new innovative products and services with strong commercialisation potential in the functional foods and aquaculture sectors.

This project includes the two awarded companies, a company based in Monaghan, the University of Limerick, Dublin City University and a joint venture between Irish fishing vessel owners and Norwegian partners who are experts in marine ingredients.

It aims at developing a nutrition ingredient, which can tap into a global market worth \$12.4 billion. Furthermore, as the project will be developing value-added products from fish biomass, it can also enhance sustainability in the fisheries sector.

Fourthly, another WDC company has been rewarded funding to trial a new mooring system for fish cages capable of withstanding more extreme conditions offshore. This aims at facilitating fish farms to move further offshore, which is important for the sustainable growth of aquaculture.

Fifthly, Ireland holds nationally a research agenda called [NutraMara](#), the Marine Functional Foods Research Initiative. NutraMara is a programme established for the identification and development of novel bioactive ingredients for functional foods from marine-derived resources. NutraMara develops also model foods incorporating marine-derived bioactive ingredients, as well as active packaging applications enhanced with bioactive components. NutraMara also has the capability to carry out pilot human intervention studies, as well as animal feeding studies and aquaculture trials.

Sixthly, UPAT brings the example of aquaculture production of organic fish, which is accordingly certified to the Naturland e.V. Standards. The company nurtures sustainability by using sustainable fish farming, whereby fish grow in the open sea with enough water volume for each.

Moreover, no pesticides, antibiotics, hormones or any other chemicals are used for accelerating their growth. On the contrary, the company uses innovative production methods and organic fish feed. This company has been the subject of the longest-running environmental impact study of sea bass and sea bream farming in Europe run by the Marine Biology Institute of the University of Crete.

It is important that the EXTRA-SME's partners nurture these examples and assess their experience to improve the innovation conditions for all enterprises in their aquaculture value chain.

Despite the positive examples described above, several EXTRA-SME's partners reported that the research in their regions focuses on absorbing EU funds. However, funding should be used to facilitate research and innovation that are meaningful to the enterprise or to the research centre conducting them. Otherwise, they risk not being efficiently deployed or commercialised.

Furthermore, some responses unveil a lack of consistency in the innovation policies. While EXTRA-SME's partners report several funding opportunities, research institutions and activities, these do not seem to necessarily tie together under the umbrella of a comprehensive innovation policy.

Finally, it is important to identify whether the administrative processes and requirements for obtaining support create constraints that could discourage SMEs for seeking support for potential innovative projects.

Recommendations

EXTRA-SME's partners are encouraged to exchange information on innovation support measures that have proven efficient in their region, so that all can review and adjust their policy mix.

In particular, it is important to assess the bottlenecks that discourage enterprises, including SMEs from innovating and from receiving support for their research activities.

Furthermore, EXTRA-SME's partners are encouraged to assess the following aspects:

1. How can the innovation policy fit into the overall strategy for entrepreneurship and for the growth of the aquaculture sector?
2. Which policy measures would facilitate synergies between research centres and the aquaculture sector, such as the examples of the WDC?
3. What would be the ideal method for facilitating SMEs to find the available funding sources, regardless if they derive from EU, national or local funds?
4. How can innovative solutions be further commercialised, such as the case of NCC?

3.4 Internationalisation

Internationalisation of the aquaculture value chains of EXTRA-SME's partners regions is important. It does not only allow the local actors to enter international value chains through exports. It also enables foreign investors to enter and operate in the EXTRA-SME's partners regions, so that they can bring their expertise, funding and knowledge to the local business ecosystem.

3.4.1 Support measures for internationalisation

The policies for the internationalisation of local aquaculture enterprises and SMEs involve financial measures, simplification of the administrative procedures for exporting fish products, support in participating in international trade shows, as well as information for the access to third markets.

In the EXTRA-SME's regions, the support for internationalisation of aquaculture enterprises is based blend of national and EU funds. However, their approach varies. Most, such as NCC, UPAT and Liguria prioritise the financial support, while others, such as NRDA and WDC focus on marketing programmes and support for third-market access.

It is worth mentioning that in WDC SMEs in the aquaculture value chain can receive ongoing support from Enterprise Ireland. This is the government organisation responsible for the development and growth of Irish enterprises in world markets. They work in partnership with Irish enterprises to help them start, grow, innovate and win export sales in global markets.

Only UPAT and ADR-BI refer to problems in the implementation of their internationalisation policies. In particular, UPAT explains that the institutional framework for financing producer organisations and trading plans is not complete. ADR-BI explains that currently they are unable to provide funding in their region.

Recommendations

As most EXTRA-SME's partners apply a blend of EU and national funding, they are encouraged to exchange information how to rationalise them to achieve the best potential use of the funding.

Moreover, they are encouraged to discuss methods for ensuring that SMEs in their regions are well informed about these support possibilities.

Finally, it is important to discuss the possibilities given through a comprehensive framework programme, such as "Enterprise Ireland", which does not only finance internationalisation activities, but also provides operational support in their activities.

Good practices in this field are support on market access rules in other countries, efficient connections with the embassies in target countries and support in participating in international trade shows.

3.4.2 Tools for illustrating aquaculture products' distinctive characteristics

Enterprises in the EXTRA-SME's partners region can gain a comparative advantage by illustrating the quality and uniqueness of their local products through well recognised certificates and the EU's geographical indications.

Internationally recognised certificates are very important for entering global value chains, as they enable retailers and catering enterprises to easily identify the quality standards according to which an enterprise operates. They are also useful for making known the products' specific qualities beyond the legal minimum requirements, such as organic fish or fish welfare.

For instance, UPAT region declares a broad use of ISO 9001, ISO 22000 and Global Gap standards. Moreover, a company in this region is certified for organic production and according to the Best Aquaculture Practices (BAP) standard. This can be one of the reasons why UPAT has a strong exporting activity.

Furthermore, the EU indications for protected geographical indications (PGI), designation of origin (PDO) and traditional specialties guaranteed (TSG) are currently well recognised beyond the EU's market. Therefore, they can promote local products in global value chains.

EXTRA-SME's partners describe that the procedure for the EU's quality indications is designed at national level. Moreover, three EXTRA-SME's partners reported that their region produces protected aquaculture products. These are Carp Zatorski in NCC (PDO), Fish roe of Messolonghi in UPAT (PDO) and Clare Island Salmon in WDG (PGI).

The lack of PGI, PDO and TSG indications may be caused by producers' lack of awareness on the importance of these indications for entering global value chains. It may also be caused by lack of awareness and support in being awarded these indications.

Therefore, it is important that EXTRA-SME's partners overcome bottlenecks relevant to the EU's quality designations, to ensure that all eligible products profit from them.

Recommendations

EXTRA-SME's partners are encouraged to provide information to their aquaculture enterprises on the importance of international quality certificates, so that their use is increased, such as the case of UPAT.

Moreover, EXTRA-SME's partners are encouraged to support their aquaculture enterprises in registering their products, either raw or artisanal, to receive EU's quality designations, following the good practices of NCC and UPAT.

3.4.3 Measures to attract foreign investment

Foreign direct investment tends to facilitate knowledge and technology transfers in the regions where it is established. Therefore, it is an important aspect of increasing the local aquaculture chain's competitiveness.

EXTRA-SME's partners state that the regulatory framework in principle does not prevent or restrict foreign direct investment in their region. However, UPAT notes that other factors may discourage foreign investment, such as the multipolar institutional framework, time-consuming administrative procedures, high taxation, institutionalisation of Organised Aquaculture Development Areas and other high costs. Equally, WDC highlights that the backlog of six years to obtain a permit acts as a quasi-barrier to FDI.

Recommendation

EXTRA-SME's partners are encouraged to discuss the potential barriers that may discourage foreign direct investment in their regions. These may include for example administrative provisions or procurement methods. This discussion would enable them to review such barriers and identify methods to eradicate the unnecessary ones.

3.4.4 Employment & improving labour's skillset

Encouraging local labour to work in aquaculture enriches the local value chain with labour of diverse skillsets and professional experience, both in blue- and white-collar jobs. However, among EXTRA-SME's partners, only Poland has specific employment policies for the field of aquaculture. These are based on an EU investment package specifically designed for Polish fishery and aquaculture sector. The investment package is directed to:

- supporting the objectives of the CFP to ensure more environmentally friendly fishing and aquaculture activities
- stimulating the development of aquaculture
- improving the living conditions of local communities dependent on fishing and aquaculture, through the creation of jobs and alternative sources of income.

Furthermore, WDC has directly supported the aquaculture sector through access to finance instruments and loans etc. The other EXTRA-SME's partners mostly rely on the horizontal employment policies to support employment in the aquaculture sector.

Moreover, providing trainings and education specific to aquaculture can prove beneficial, as it enriches the labour force's skillset and allows them to use existing skills in ways relevant to aquaculture. Thereby, it may also lead to further innovation in processes and products.

As the table below illustrates, most EXTRA-SME's partners have some form of training in place relevant to aquaculture sector.

Training programmes relevant to aquaculture in EXTRA-SME's partners regions	
ADR-BI	No measures for now
LIGURIA	The FLAG association, a local action group, provides training and education not only for new entrepreneurs, but also for the requalification of existing ones.
NRDA	The following academic institutions are working in this field: Klaipeda University, Klaipeda state college and Aleksandras Stulginskis University. These institutions are responsible to prepare specialists, conduct research and organise seminars among other activities.
LAPLAND	No training
NCC	There are available various types of courses and trainings to potential employees of the sector, co-financed from EU funds. Furthermore, there are study programmes focused on aquaculture. A graduate of such studies should have knowledge and skills in the area of: <ul style="list-style-type: none"> • collecting, processing and analysing water samples • functioning of aquatic organisms • basics of veterinary medicine • business terminology • negotiation techniques • basics of the IT industry and construction of machines used in aquaculture • examination of aquatic organisms
UPAT	There are sometimes seminars to the aquaculture producers from the state for the diffusion of the institutional framework. Production and processing units also offer seminars for the training of under-skilled workers.



WDC

BIM offers a Seafood Training Scheme for the course fees and subsistence costs incurred when you undertake training in the Irish catching, fish farming and seafood processing sectors.

- Funding for training is available in the following areas
- Commercial Fishing
- Fishing Vessel Engineering
- GMDSS Radio Communications
- Skippers
- Aquaculture
- Commercial Diving
- Safety, Health and Welfare at Work
- Seafood Processing

BIM also offers a Seafood Capacity Building Scheme for assistance to stage conferences or workshops and attend overseas at conferences, workshops, seafood trade shows and other networking events.

Figure 8 Training programmes relevant to aquaculture in EXTRA-SME's partners regions

The large discrepancies among the EXTRA-SME's partners education and training policies on aquaculture illustrate that a comparative assessment of the existing policies could act as inspiration to all for establishing programmes fit for the aquaculture sector.

Recommendations

EXTRA-SME's partners are encouraged to discuss the benefits of employment policies that specifically target the aquaculture value chain, as designed in Poland (NCC).

Moreover, they are encouraged to discuss what is the best possible mix of vocational and university-level training, as well as the types of audience they address and the way they were formulated. They could also consider setting up a common framework for trainings.

4 CONCLUSIONS AND DISCUSSION

The comparative analysis of the aquaculture value chains in the EXTRA-SME's regions illustrated great differences among the EXTRA-SME's partners' in the size, value, diversification and internationalisation of their aquaculture activities. It also illustrated that all EXTRA-SME's partners have potential for improvement in several of these sectors, so that they can all establish:

1. A sound level of processing activity, as processing increases the value added of aquaculture and it also allows products to enter global high-quality value chains
1. A vibrant export activity of their aquaculture products, as new markets allow enterprises, and particularly SMEs, to increase their income and to learn from getting exposed to global markets and competition.
2. A policy framework that stimulates synergies, as these are important to promote the multiple use of capital investment and innovation, through the cooperation among economic actors active in different parts of the value chain.

The comparative assessment of the policy frameworks applicable to the aquaculture value chain in the EXTRA-SME's regions started with the assessment of the framework for ensuring a stable and predictable investment environment. This illustrated that:

1. Some EXTRA-SME's partners still need to establish a publicly accessible property register, so that interested investors can find the available land for aquaculture activities and avoid judicial conflicts over ownership and use of land.
2. The spatial planning is not complete or under review in many EXTRA-SME's partners. Its successful completion is important for ensuring environmental protection and a transparent framework for the coexistence of aquaculture activities with other economic activities.
3. The requirements, procedures, cost and maximum duration of permissions for production and processing units of aquaculture diverge significantly among the EXTRA-SME's partners. This illustrates that a thorough discussion among them on the rationale behind their framework could lead to further rationalisation and streamlining of the procedures. Equally, all EXTRA-SME's partners are encouraged to develop guidance for the permission procedure.

Furthermore, the deliverable examined whether the EXTRA-SME's partners have a regulatory framework in place that can curb short-sighted investment and protect public interests. All EXTRA-SME's partners implement the EU rules on food safety and consumer protection. Nevertheless, it remains unclear to which extent they supervise the application of these rules to stop non-compliant business behaviour and whether they provide training or information on the proper implementation of the rules.

The last part of the deliverable examined policies that aim at boosting the competitiveness of EXTRA-SME's partners aquaculture value chains. These namely are the entrepreneurship, innovation, internationalisation, labour and training policies. The input collection revealed that all EXTRA-SME's partners had relevant policies in place, often blending EU, national and local funds to this end. However, they often seemed to lack a framework that would ensure the consistency of these policies and possibly set goals for the future. More particularly, the entrepreneurship policies in most cases did not act as an umbrella that would set the goals for the other competitiveness policies.

Moreover, innovation policies do not always seek to support the research efforts and the commercialisation of innovative solutions produced in EXTRA-SME's regions. Equally, the

internationalisation activities sometimes provided funding without other supportive measures such as international networking or information for third market access. Finally, many EXTRA-SME's partners lack policies that specifically target training and employment in the aquaculture value chain. Thereby, they deprive the sector from skilled personnel both for blue- and white- collar jobs.

Overall, the differences in the policy mix among EXTRA-SME's partners illustrate that the comparative analysis and common discussion of their policies has the potential to enable them to improve their policy framework. This deliverable should be used firstly as a reflection exercise for each EXTRA-SME partner to review its existing policies, assess their effectiveness and evaluate whether integrating new elements would improve its policy mix.

It is also recommendable that EXTRA-SME's partners conduct a workshop, which would allow them to discuss in further detail the results of the comparative analysis and the recommendations for each type of policy. This would enable them to answer potential questions on each other's policies, describe in detail their policy mix, complete possible gaps and understand what were the pitfalls or constraints that other EXTRA-SME's partners addressed in their efforts to implement certain policies. Finally, it is important that the EXTRA-SME's partners use the results of this project to introduce changes in their local policy mix and to suggest changes in the national policy mix, given that many of these policies are implemented at national level.

ANNEX: WORKBOOK WITH ALL ANSWERS BY EXTRA-SME'S PARTNERS

Question 1a: How many aquaculture production SMEs are active in your region?

	Fish feed	Fish	Crustaceans	Hatcheries	Processing activities	Total SMEs
ADR - BI						35
LIGURIA	2		77 mitilus galloprovincialis			79
NRDA		158	14		4	176
Lapland	22	9		13		
NCC						
UPAT	18			3		21
WDC						68% have less than 5 employees

Question 1b: How many aquaculture production enterprises and SMEs are active in your region?

	Fish feed	Fish	Crustaceans	Hatcheries	Processing activities	Total
ADR - BI						35
LIGURIA	2		77 mytilus galloprovincialis			79
NRDA		158	14		4	176

Lapland		9		13	Some fish wholesale companies and small-scale fish production (totally less than 10 units) ⁷ .	22
NCC						304
UPAT	3	26		5		34
WDC						279

⁷ This was initially put under question 2, but as it refers to enterprise units, it was moved here

Question 2: How many tonnes of aquaculture products are produced in your region?

	Fish feed	Fish	Crustaceans	Hatcheries in pieces of eggs	Processed products	Production in tonnes
ADR - BI	5860			1307000		10.980
LIGURIA	600	420				1.020
NRDA		121511	638		19058	141.207
Lapland	577, more than 90 % Rainbow trout					577
NCC						35.000
UPAT	90.000	6.188		9320000		96.188 ⁸
WDC						47.147 (national figure)

Question 3: What is the total economic value of aquaculture products produced in your region?

	Fish feed	Fish	Crustaceans	Hatcheries	Processed products	Total production in millions of euro
ADR - BI						20
LIGURIA	5		1			6
NRDA						851
Lapland	0	2,8				3
NCC						2.414
UPAT	90	32		19		141
WDC						208

Are you aware of the turnover of transport-related activities of live fish and crustaceans in your region?

Question 4

This question remained unanswered by all partners

⁸ Eggs not included in this sum

Question 5: What is the total value of exports of your region's aquaculture exports? (% of turnovers)

	Fish feed	Fish	Crustaceans	Hatcheries	Algae	Processed products	Total exports as % of the economic value
ADR - BI							
LIGURIA							no
NRDA							€653.898.212
Lapland							small and variable proportion
NCC							1,4%
UPAT		80%		10%			
WDC							

Question 6: Are you aware of non-obligatory standards and certificates that are used in your region?

ADR - BI	
LIGURIA	In Regione Liguria there are strict and standard regulations (DGR 1415 30/11/2007)
NRDA	
Lapland	Only national standards and certificates
NCC	
UPAT	All fish producers in our region produce fish feeds according to the national and EU rules. They are certified according to ISO 9001, ISO 22000 and Global Gap. One of them, is the only fish feed factory in Greece certified for organic production and according to the Best Aquaculture Practices (BAP)
WDC	

Question 7: Which aquaculture products in your region are protected under geographical indications (PGI), protected designations of origin (PDO) and traditional specialities guaranteed (TSG) in your region?

	PGI	PDO	TSG
ADR - BI			
LIGURIA	None		
NRDA			
Lapland	None		
NCC		Carp zatorski	
UPAT		Fish roe of Messolonghi	
WDC	Clare Island Salmon		

Question 8: Are you aware of innovative aquaculture production or aquaculture processing SMEs in your region?

ADR - BI	At this moment, all analysis is oriented to the effectiveness of the aquaculture sector and its development. Most analyses are related with the efficient absorption of EU funds. At this moment there are no innovative solutions related to the aquaculture production. In Romania there is a research institution which is oriented to the research and innovations of aquaculture sector: Stațiunea de Cercetare - Dezvoltare pentru Piscicultură Nucet (Research & Development Resort for Fish Farming – Nucet)
LIGURIA	Yes, there is an innovative offshore aquaculture process now in progress
NRDA	The analysis is oriented to the effectiveness of the aquaculture sector and possible development. Most analysis are related with the efficient absorption of EU funds. But till yet are not found some innovative solutions related with the aquaculture production. In Lithuania are two research institutions which are oriented to the research and innovations of aquaculture sector: Klaipeda university, Research Institute “Slėnis Nemunas” and Aleksandras Stulginskis University
Lapland	
NCC	In the West Pomeranian region in Poland there is a company that deals in salmon farming: Jurassic Salmon. Jurassic Salmon is the first world's fully eco-friendly Atlantic Salmon farm that uses 150 million years of thermal water. Geothermal water is 150 million years old; this water has several micro and macro elements whose presence positively affects the health and condition of fish and the quality of meat. It is worth noting that this is the largest plant of this type in Europe, which introduces several innovative solutions.

UPAT	<p>The only innovative aquaculture production is organic fish (certified organic to the Naturland e.V. Standards) at Kefalonia Fisheries (Ionian islands) taking special care at the following issues:</p> <ol style="list-style-type: none"> 1. Sustainability: 52% of the world's fish stocks are fully exploited, which means that they are being fished at their maximum biological capacity. 24% are overexploited, depleted or recovering from depletion. 21% are moderately exploited. Only 3% of the world's fish stocks are under exploited. At Kefalonia Fisheries believe that one of the ways to relieve pressure on wild fish stocks lies in environmentally responsible, sustainable fish farming, the natural way. 2. Clean waters: Ideally, both fish farming and wild fisheries should be in the cleanest waters possible-unpolluted and away from main shipping lanes. Their site is well protected from storms, while ensuring a constant renewal of the waters by strong undercurrents. Their production site is free of all industrial, agricultural and urban activity and virtually unexposed to pollutants. The fish live in the open Mediterranean Sea, their natural environment. 3. No chemicals in production: Conventional commercial farming often uses several pesticides and drugs to enable the plants and animals to survive in crowded conditions, where speed of growth is paramount. Organic fish farming does away with the need for all these chemicals. No pesticides, antibiotics, hormones or any other chemicals are allowed under our organic standards. 4. Stocking density: The environment of the animal must enable it to behave in a way natural to the species, most especially regarding movement, resting and feeding as well as social and reproductive habits. Stocking densities in normal farms can be as high as 25 to 30kg per cubic meter for salmon and 18kg for sea bass and sea bream. At Kefalonia Fisheries, fish are stocked at an average of 10kg per cubic meter of water: this means that fish take up about 1% of the volume in their pen. The fish grow slowly, as nature intended. 5. Environmental impact: Kefalonia Fisheries has been the subject of the longest-running environmental impact study of sea bass and sea bream farming in Europe run by the Marine Biology Institute of the University of Crete. Accumulated data from over 10 years has conclusively shown no adverse impact to our environment. Is one of the first farms for these species to adopt following practices, rotating our cage groups at the end of every production cycle in order to avoid the build-up of waste on the seabed. As with organic farming, rotating the production sites allows for the continuous renewal and recovery of the seabed. 6. Special Feed: The feed is made up of only the most natural ingredients: The fish meal and fish oil are made entirely from wild fish trimmings from existing fisheries. Their quality is strictly controlled and certified organic by Naturland e.V.: <ul style="list-style-type: none"> • Certified-organic grains, free of any genetically modified organisms • Vitamins and minerals They guarantee that our feed is from sustainable, non-GM sources, with absolutely no land-animal products or by-products.
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WDC

Irish companies, Bio-marine Ingredients Ireland (BII) and Technology from Ideas Ltd, (Tfi) have recently been awarded funding under the Marine Institute's Industry-led Award scheme. The companies will use the funding to support innovative R&D designed to develop new products and services with strong commercialisation potential in the functional foods and aquaculture sectors. With this grant aid, Monaghan-based Bio-marine Ingredients Ireland (BII) will conduct research with the goal of developing a new health supplement based on blue whiting fish protein. The company, working with partners in the University of Limerick and Dublin City University, has recognised the potential of functional food products derived from blue whiting which could yield enormous benefits for skeletal health, particularly in older people. A successful outcome to this work could see the introduction of a new Irish health ingredient into a global market worth \$12.4 billion. In developing value-added products from fish biomass, the project can also enhance sustainability in the fisheries sector. BII is a joint venture between Irish fishing vessel owners and Norwegian partners who are experts in marine ingredients.

Dublin-based company, Technology From Ideas Ltd (Tfi), has been awarded €199,960 in funding from the Marine Institute to trial a new mooring system for fish cages capable of withstanding more extreme conditions offshore. Aquaculture is a key growth sector in the blue economy contributing to job creation and food supply. For the industry to develop and grow in a sustainable manner, fish farms will need to move further offshore, which brings with it the challenge of increased loads on the farming cages and the related mooring systems. Having identified a suitable fish farm in the West of Ireland, Tfi Marine will work to firstly analyse the loads, monitor the impact of the loads on the mooring system, and validate various polymer mooring solutions.

The marine industry in Ireland is also involved in research to harness the potential of marine resources, including seaweeds, aquaculture, microalgae and marine processing by-products, as sources of functional-food ingredients.

An example of this research agenda is NutraMara, the Marine Functional Foods Research Initiative. NutraMara is a programme established for the identification and development of novel bioactive ingredients for functional foods from marine-derived resources. Additionally, NutraMara is developing model foods incorporating marine-derived bioactive ingredients, as well as active packaging applications enhanced with bioactive components. NutraMara also has the capability to carry out pilot human intervention studies, as well as animal feeding studies and aquaculture trials.

Established in 2008, NutraMara, as a consortium, brings together Irish marine and food science experts and capabilities from six institutions (and seven centres) throughout the island of Ireland. Teagasc Ashtown Food Research Centre leads the consortium. The Marine Institute and the Department of Agriculture, Food and Marine in Ireland fund the project

Question 9: Is there a complete property register in your region, public or otherwise easily accessible?

ADR - BI	In Romania is complete, public and easily accessible property register. Public information can be found in website https://osim.ro/en/home/
LIGURIA	There is not a mandatory registration, but all SMEs are advised to associate with A.P.I. (Italian fisheries association)
NRDA	Yes, in Lithuania is complete, public and easily accessible property register. Public information can be found in website: http://www.registrucentras.lt/en/ .
Lapland	There is a detailed aquaculture register. However, it is for official purposes only. For example, not even local authorities have access to it.
NCC	
UPAT	In western Greece most aquaculture units are established as intensive sea farming which take place in sea cages. In areas that the aquaculture activity is allowed, an investor can submit a request to the competent service, in order to lease the sea area, he is interesting in. Under the rules of the coming spatial planning, the available sea areas for sea farming will be certain, accurate and delimited. The hatcheries, processing units or inland aquaculture are founded either on private properties or leased by private or public.
WDC	The Property Registration Authority (PRA) is the State organisation responsible for the registration of property transactions in Ireland. ... The PRA replaced the Registrar of Deeds and Titles as the “registering authority” in relation to property registration in Ireland.

Question 10: How is the spatial planning of coastal areas organised in your region?

ADR - BI	Romania is planning the coastal areas according the EU regulation and using the Maritime Spatial Planning Directive. In Romania the maritime region is the SE region. This region has started preparing the spatial planning required by the Directive for 2021.
LIGURIA	Maritime Spatial Planning is a regional competence, therefore Regione Liguria is responsible for it.
NRDA	Lithuania is planning the coastal areas according the EU regulation and using the Maritime Spatial Planning Directive. In Lithuania the maritime region is Klaipeda region. This region has started preparing the spatial planning required by the Directive for 2021.
Lapland	No fish farming in coastal areas. In inland waters there is no clear planning of aquaculture areas.
NCC	In Poland, work is underway on the first in the history of spatial development plan for Polish Marine Areas. Its basis is the implementation into the Polish legal order of the provisions of Directive 2014/89 / EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for spatial planning of sea areas. Each Member State is required to develop and implement spatial plans for maritime areas by 2021. Works on the spatial development plan of Polish sea areas in the 1: 200,000 scale together with the Environmental Impact Assessment started on 22 July 2016. Pursuant to the Act of March 21, 1991 on the maritime areas of the Republic of Poland and maritime administration, the Directors of Maritime Offices in Gdynia, Słupsk and Szczecin are required to develop the draft plan, who commissioned the implementation of the Plan and Forecast project from funds acquired under the Operational Program Knowledge Education Development, co-financed by the European Union from the European Social Fund.
UPAT	There is a multilevel management of spatial planning and Sustainable Development through the following plans: <ul style="list-style-type: none"> • General Framework for Spatial planning (2008) • Special Frameworks for Spatial Planning (2008, 2009 2011) • Regional Frameworks for Spatial Planning (2003, 2004) • Framework for Aquaculture: Common Ministerial Decision (2011) • Strategic Environment Impact Assessment is an integral part of the Ministerial Decision Currently, there are ongoing consultations on the plan for the characterization and delimitation of Organized Aquaculture Development Areas, in the area of Echinados islands and Aitolokarnania

WDC	<p>Harnessing Our Ocean Wealth (HOOW) is Ireland’s integrated marine plan. It sets out a comprehensive range of actions across several sectoral areas to enable our marine potential to be realised. Key objectives are to:</p> <p>Double the value of our ocean wealth to 2.4% of GDP by 2030.</p> <p>Increase the turnover from our ocean economy to exceed €6.4bn by 2020.</p> <p>To achieve these, HOOW envisages significant growth in seafood production and aquaculture, maritime transport, marine renewable energy, marine biotechnology and ICT, marine and coastal tourism and leisure. At the same time, HOOW also recognises the importance of our rich marine biodiversity and ecosystems to our ocean wealth. Realisation of these objectives will require the development of a Marine Spatial Plan for Ireland for the following reasons:</p> <p>To give coastal communities and other stakeholders a clear role in determining how we plan for current and future uses and treatment of our marine territory;</p> <p>To reduce conflicts between sectors and create synergies between different activities;</p> <p>To encourage investment by creating predictability, transparency and clearer rules;</p> <p>To increase cross-border cooperation between EU countries to develop energy grids, shipping lanes, pipelines, submarine cables and other activities, but also to develop coherent networks of protected areas;</p> <p>To support sustainability through early identification of impact and opportunities for multiple uses of space.</p> <p>HOOW predates EU Directive 2014/89/EU which established an EU-wide framework for maritime spatial planning (MSP) and was adopted in July 2014. The directive established a framework for MSP, defined as “a process by which the relevant Member State’s authorities analyse and organise human activities in marine areas to achieve ecological, economic and social objectives”.</p> <p>Ireland has transposed the Directive through the European Union (Framework for Maritime Spatial Planning) Regulations 2016, signed into law on 29th June 2016. The regulations establish the legal basis and broad framework for Ireland to implement MSP through the development of a maritime spatial plan (or plans) on a 10-year cycle. Under the Regulations, the Minister for the Environment, the Minister for Housing, Planning and Local Government is the competent authority for the purposes of the Directive and, by extension, for purposes of preparing Ireland’s first maritime spatial plan.</p>
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Question 11: What is the procedure and cost for obtaining a permit for an aquaculture production unit? Please also inform if there are any public guidelines for applicants that guide them through the permission procedure

ADR - BI	<p>In Romania there are no special permits or licenses required for aquaculture production. The more specific requirements can be considered to include veterinary approval numbers for aquaculture pond enterprises for the environmental impact assessment of the proposed economic activity and for farm operators engaged in aquaculture activities. Only the aquaculture activity that can have a significant impact on the environment must be controlled by permits. The limits of the criteria set out in the permit indicate what specific aquaculture activities are planned to be covered by this permit. Different types of criteria are used, such as the size of the pools, the amount of planting material to be used, the planned annual production volume. Permit limits vary considerably. The authority who supervises this activity is ANPA (National Agency for Fisheries and Aquaculture - http://www.anpa.ro/)</p>
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LIGURIA	The permit is given by municipalities; hence each one can have a different guideline or regulation framework. There is a REGIONAL GUIDELINE (following regional regulation DGR 1415 30/11/2007) that drives the path and clarifies most of all aspects of the procedure.
NRDA	In Lithuania aren't required special permits or licenses for aquaculture production. More specific requirements can be considered to include veterinary approval numbers for aquaculture pond enterprises for the environmental impact assessment of the proposed economic activity (from 5 ha or, if the area of the planned facility is greater than 0.5 ha), and for farm operators engaged in aquaculture activities. Only the aquaculture activity that can have a significant impact on the environment must be controlled by permits. The limits of the criteria set out in the permit indicate what specific aquaculture activities are planned to be covered by this permit. Different types of criteria are used, such as the size of the pools, the amount of planting material to be used, the planned annual production volume. Permit limits vary considerably
Lapland	cost (approximately): production more than 100 tn – about 20 000 euros; production 30-100 tons – about 12 000 euros; production 2-30 tons about 8 000 euros. This is only the cost of the permit. There is a clear procedure for obtaining permit. Procedure: Permit application to authority, supplements (if asked), publication of the application, statements and complains + opinions (open for all the affected persons and organisations), written reply from the applicant, permit consideration, permit decision, publicising of the decision, Appellate procedure, legally valid permit (compliance monitoring). Complain against permit decisions may be made to the Administrative Court and then (if possibility accessed) to Supreme Administrative Court. The procedure will normally take 1-2 years + possible complains to the court
NCC	The applicant submits an application for a permit to breed marine organisms or restocking in Polish sea areas to the Minister of Maritime Economy and Inland Navigation. If the application is correctly completed and issuing the permit does not pose a threat to the sustainability or balance of the marine environment, the Minister of Maritime Economy and Inland Navigation will issue a permit in accordance with the data contained in the application. A small fee must be paid.

UPAT	<p>The cost is about €1.000-2.000. The procedure is, as follows:</p> <ul style="list-style-type: none"> Ø Submission of the request to the competent service (Directorate of Rural Affairs of western Greece, Decentralized Administration of Peloponnese, Western Greece and Ionian Islands) with a file of accompanying documents (such as topographic diagrams, techno-economical study etc..) Ø Transmission of the file to interdisciplinary services, for an opinion about the request accordingly their responsibilities Ø Issuance of resolving resolutions for the letting of sea area Ø Submission of the file for approve of environmental terms Ø Submission of the file for approve of veterinary leave Ø Issuance of decision approving environmental terms and veterinary authorization Ø Issuance of Permit of letting of the requested sea area and of production unit operating licence. Ø A veterinary code is given, specific for each unit. 																											
WDC	<p>Aquaculture licensing is administered through the Aquaculture and Foreshore Management Division of the Department of Agriculture, Food and the Marine. The Division also processes companion foreshore licences required for coastal aquaculture operations. The Minister for Agriculture, Food and the Marine decides on applications made to the Division on the approved application form and accompanied by the appropriate fees. Any person who engages in aquaculture without a licence or who breaches the terms of a licence may be prosecuted through the Courts. Penalties can be severe and in addition to any fine imposed by the Court, the Minister may, by Order, also require the person convicted to remove any structures and/or equipment. Licences are typically issued for 10 years. Guidance notes for applicants and application form can be found on https://www.agriculture.gov.ie/seafood/aquacultureforeshoremanagement/formsdownloads/</p> <p>The cost of obtaining and maintaining an aquaculture licence varies with the type of aquaculture proposed. Aquaculture Application Fees</p> <table border="1"> <thead> <tr> <th>Licence class</th> <th>Method of calculation</th> <th>Fee</th> </tr> </thead> <tbody> <tr> <td>New licence shellfish, plants or food</td> <td>Intensive shellfish culture or culture of aquatic plants or aquatic fish food</td> <td>Up to 2 hectares €95.23</td> </tr> <tr> <td>New licence finfish</td> <td>Renewal /review shellfish, plants or food</td> <td>Renewal/review finfish €634.87</td> </tr> <tr> <td>Renewal /review shellfish, plants or food</td> <td>Renewal/review finfish</td> <td>€63.49</td> </tr> <tr> <td>€190.46</td> <td>Licence class</td> <td>Method of calculation</td> </tr> <tr> <td>€82.53</td> <td>Each additional hectare</td> <td>€40.63</td> </tr> <tr> <td>€82.53</td> <td>Each additional hectare up to 20</td> <td>€40.63</td> </tr> <tr> <td>€1.27</td> <td>Each additional hectare above 20</td> <td>€1.27</td> </tr> <tr> <td>€6.35</td> <td>Each additional tonne</td> <td>€15.24</td> </tr> </tbody> </table> <p>Other indirect costs associated with acquiring an aquaculture licence include: § Banking:-business plan etc.; § EIA report (where applicable); § Planning permission (land-based applications); § Water discharge licence (land-based applications); § Water and other analysis report; § Notices in newspapers; § Engineering drawings, consultant and/ or legal professional fees. The above costs can vary collectively from €1000 for an on growing shellfish licence applicant up to €100,000 for a marine on growing finfish applicant who is required to commission an EIA.</p>	Licence class	Method of calculation	Fee	New licence shellfish, plants or food	Intensive shellfish culture or culture of aquatic plants or aquatic fish food	Up to 2 hectares €95.23	New licence finfish	Renewal /review shellfish, plants or food	Renewal/review finfish €634.87	Renewal /review shellfish, plants or food	Renewal/review finfish	€63.49	€190.46	Licence class	Method of calculation	€82.53	Each additional hectare	€40.63	€82.53	Each additional hectare up to 20	€40.63	€1.27	Each additional hectare above 20	€1.27	€6.35	Each additional tonne	€15.24
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Question 11: What is the procedure and cost for obtaining a permit for a processing unit for aquaculture products? Please also inform if there are any public guidelines for applicants that guide them through the permission procedure

ADR - BI	<p>Getting started often requires several concurrent permits, such as an environmental permit, a water permit, a veterinary service permit, and a building permit. Questionnaires for permission applicants vary considerably depending on whether they are requested general environmental permit or special permit for aquaculture activities. Most common conditions are as follows:</p> <ul style="list-style-type: none"> • Needs for water use and volumes of resistances or pools • General requirements for pollution control • Feed quantities and their characteristics • Quantities of nutrients released into the environment • Allow species to grow • Fish farming techniques and methods • Veterinary requirements <p>In most cases, the permit is temporary and is valid for an average of 5 years.</p>
LIGURIA	<p>Procedures are the same as for aquaculture production</p>
NRDA	<p>Getting started often requires several concurrent permits, such as an environmental permit, a water permit, a veterinary service permit, and a building permit. Questionnaires for permission applicants vary considerably depending on whether they are requested general environmental permit or special permit for aquaculture activities. Most common conditions are as follows:</p> <ul style="list-style-type: none"> • Needs for water use and volumes of resistances or pools • General requirements for pollution control • Feed quantities and their characteristics • Quantities of nutrients released into the environment • Allow species to grow • Fish farming techniques and methods • Veterinary requirements <p>In most cases, the permit is temporary and is valid for an average of 5 to 10 years.</p>
Lapland	<p>Processing of the fish etc. needs permission from the food inspection authority (Municipality level). This is simple and cheap permit – however the standards for the facilities are high and need high investments.</p>
NCC	

UPAT	The cost is about 5.000€. The permits are different from the one for aquaculture production unit. There are two (2) permits. One operating licence is given by the Directorate for Development of Regional Unity and one by the veterinary authorization. The operating licence is given according to the Law 3982/2011. After the submission of the request with all the necessary documents, it is issued an installation approval and subsequent to the approve of veterinary leave and the notification of operation, through taxisnet, and autopsy from the competent service, the operating issue is issued. Afterwards the veterinary code is given, when the production starts up.
WDC	<p>The Foreshore Acts require that before the commencement of any works or activity (including the erection of any structures) on State-owned foreshore a licence or lease must be obtained from the Minister for Agriculture, Food and the Marine for works undertaken on the foreshore which are deemed to be:</p> <ul style="list-style-type: none"> • any function in relation to a fishery harbour centre, • any function in respect of— <p>(i) an activity which is wholly or primarily for the use, development or support of aquaculture, or</p> <p>(ii) an activity which is wholly or primarily for the use, development or support of sea-fishing including the processing and sale of sea-fish and manufacture of products derived from sea-fish.</p> <p>Such a lease or licence is subject to an annual rental payable to the Exchequer. Foreshore is the land and seabed between the high water of ordinary or medium tides (shown HWM on Ordnance Survey Maps) and the twelve-mile limit (twelve nautical miles is approximately 22.24 kilometres).</p>

Question 12: Which are the circumstances that an aquaculture facility might require a review or change of its permit?

	Time limit in permits	Obligatory review for more intensive farming	Obligatory review for new types of activities	Expansion of the facility	Other circumstances
ADR-BI	Yes	Yes	Yes	Yes	Water quality pollution issues
LIGURIA	Yes	Yes	Yes	Yes	complementary activities (tourism, food preparation)
NRDA	5-10 years	Yes	Yes	Yes	environmental pollution, water quality
Lapland	The length of permits varies	Yes	Yes	Yes	

NCC	No	Yes	Yes	Yes	The Minister of Maritime Economy and Inland Navigation shall withdraw the permit by releasing the permit if breeding of marine organisms or restocking are not carried out in accordance with the permit or this constitutes a threat to the sustainability or equilibrium of the marine environment, in particular by negative impact on other marine species than those covered by the activity . Such a decision is immediately enforceable.
UPAT	Yes. The permit for sea letting and operating licence last for 20 years.	Yes	Yes	Yes	When the approval of environmental terms expires
WDC	Yes 10 years usually but can be up to 20	Yes	Yes	Yes	

Question 13: Are you aware if the regulatory framework in your territory promotes synergies in the aquaculture value chain?

ADR-BI	no data
LIGURIA	no data
NRDA	no data
Lapland	no data
NCC	no data
UPAT	Firstly, in the Law 4282/2014 “Development of aquaculture and other provisions”, in the article 13, paragraph 3, foreseen that the tenant can grant the lease or to enter legal relationships for it or for its facilities, under certain conditions. Secondly, some, smaller in size, aquaculture producer, are in synergies with others that own processing units or berthing facilities.
WDC	no data

Question 14: How do you ensure consumers’ safety regarding fish & crustaceans’ consumption?

ADR-BI	Romania is using the EU regulations
LIGURIA	The HACCP standard regulation is the one that in Italy deals not only with fish but with all food consumption. Therefore, fish and mussels are obliged to follow it strictly

NRDA	Lithuania is using EU regulation
Lapland	Tight and very well inspected legislation (HACCP procedure)
NCC	Poland is using EU regulation
UPAT	Every processing unit has got an approval number and they apply GLOBAL GAP, ISO 22000, HACCP, ISO 14001, TRACEABILITY standards. The frequency of controls is defined by the certification body.
WDC	Article 35 of the Regulation sets out the mandatory information that must be provided for prepacked and non-prepacked products and specifies the following indications: § Commercial and scientific name of the species (see SFPA Commercial Designation list for details) § Production method ("...caught..." or "...caught in freshwater..." or "...farmed...") § Area where the product was caught or farmed § Category of fishing gear used § Whether the product has been defrosted (with limited exceptions) § Date of minimum durability ('best-before' date) – where appropriate

Question 15: Which rules do you apply for labelling of fish and crustaceans' products regarding product safety?

ADR-BI	Romania is using the EU regulations
LIGURIA	We apply also in this case the HACCP rule (see section 14)
NRDA	Lithuania is using EU regulation
Lapland	
NCC	Poland is using EU regulation
UPAT	According to the above regulation and the specific EU regulation for fish, the labelling of the fish products, indicates the approval number of the processing unit, the name of the fish (in Latin and trademark), if it's fished (FAO area) or aquaculture product, the sustainability days, the weight. If the fish product is processed, the content in proteins, carbohydrates, fat etc. per 100gr is indicated as well as if it is allergic.
WDC	As above

Question 16: Are you aware of rules, administrative procedures or costs that may discourage the use of fish-processing or fish-producing by-products as raw material for other types of products?

ADR-BI	No data
LIGURIA	No data
NRDA	No data
Lapland	No data
NCC	No data
UPAT	All the by-products of the process are processed in accordance with the European Union rules for the management of by-products. The fish processing by-products are used to produce low-value products, such as feed, or discarded by increasing the energy, environmental and economic costs of the process. The sub-products of the fish-breeding units are incinerated at the company's sanitary facility or in cooperating in-house facilities.
WDC	No data

Question 17: Do you consider that the regulatory framework in your region may act counterproductively against innovation in sectors, such as biology, biotechnologies, zootechnics, and circular economy?

ADR-BI	no data
LIGURIA	No, Regione Liguria encourages a sustainable (not only of the product but also of the process) of the entire aquaculture system but Municipalities sometimes can be a barrier as, for other reasons, can discourages new plant. Given the fact that all the region has been mapped on good zones where aquaculture is possible, it should be easier for a SME to start a new plant.
NRDA	No. The regulatory framework in Lithuania don't against innovations in the sectors such as biology, biotechnologies, zootechnics and circular economy.
Lapland	No data
NCC	No. The regulatory framework in Poland don't against innovations in sectors such as biology, biotechnologies, zootechnics, and circular economy.

UPAT	<p>No, not really. There are several programmes and institutes that seek to tackle the structural weaknesses in Greece that contributed to the economic crisis, as well as other economic and social problems caused by it.</p> <p>The Hellenic Foundation for Research and Innovation is a new institution through which a profound reforming effort is being attempted in the field of Research and Innovation in the country. It belongs to the broader public sector and operates in the public interest and, specifically, for the promotion of research and innovation. The HFRI is governed by the provisions of Law 4429/2016 (Government Gazette, Series I, no. 199), as in force, and Internal Rules of Operation (IRO).</p> <p>Fisheries and Maritime Operational Programme</p> <p>This programme is under a single fund (European Maritime and Fisheries Fund - EMFF). The OP's main objectives are to enhance the competitiveness of the aquaculture and processing sectors, the viability of the sea fisheries sector and the sustainable development of traditionally fisheries-dependent areas. The programme also addresses the need for protection and rehabilitation of the marine environment and its living resources, the control of fisheries activities, the collection of fisheries data and the improvement of knowledge on the state of the marine environment.</p>
WDC	<p>The small scale and fragmentary nature of the Irish aquaculture industry means that there are difficulties in driving competitiveness, especially in trying to supply products into large-scale commodity markets. Conversely, the advantage of this has meant that the Irish industry focuses on high-value, niche products to remain viable. The constant demand for innovation and development of new and improved products puts a heavy burden on small businesses. Therefore, research and development institutions and their links with industry are vital to the success and on-going sustainability of the sector.</p>

Question 18: How can enterprises in the aquaculture value chain receive support for innovation in your region?

ADR-BI	Enterprises in the aquaculture value chain have possibility to receive support from EU and national funds or regional support from local government.
LIGURIA	There are many sources of funding for innovative value chain in aquaculture that represent a valid help to new plants: EU FEAMP fund, EU FESR fund and other regional funds that encourage the R&D development in the field.
NRDA	The companies have possibility to receive the support from EU and national funds or regional support from local government.
Lapland	Normal procedure for innovations. EMFF can be used, too.

NCC	<p>Financial aid for entrepreneurs is mainly provided under the Operational Program Fisheries and Sea 2014-2020 (AFTER FISH 2014-2020). Priority II. Supporting environmentally sustainable, innovative, resource-efficient, competitive aquaculture, based on knowledge. The general objective of Priority 2 is to achieve and maintain Poland's leading position in the European Union in the production of fish from inland aquaculture. As part of the general sectoral activities, support covers operations aimed at increasing production, increasing the profitability of aquaculture entities and strengthening planning. These activities are co-financed in the scope of: development and introduction in aquaculture farms of new or improved management systems, technical, scientific and organizational knowledge</p> <p>Assistance under the measure "Innovation" action is intended for the development, testing and implementation of new technological or organizational solutions that increase the efficiency and competitiveness of aquaculture farms</p>
UPAT	<p>The enterprises can receive support for innovation in our region through the action "Innovation in aquaculture" from the Operational Programme of Fisheries and Sea under the European Maritime and Fisheries Fund. The action has as thematic target the improvement of competitiveness the SMEs in aquaculture and with main criteria the synergy between farms and research centres and a high % of funding for the extra SMEs. The innovation activities focus on:</p> <ul style="list-style-type: none"> (a) the development of technical, scientific or organizational knowledge on aquaculture farms, which in particular will limit the impact on the environment, reduce dependence on fishmeal and fish oils, enhance sustainable use of resources in aquaculture, improve animal welfare or will facilitate new, sustainable, innovative production methods; (b) the development or introduction of new aquaculture products with good market prospects, new or significantly improved products or improved processes, new or improved management and organization systems; (c) the investigation of the technical or economic feasibility of innovations, products or processes

WDC	<p>The primary government agency responsible for commercial fisheries and aquaculture development in Ireland is An Bord Iascaigh Mhara (BIM). Údarás na Gaeltachta also has a role in the development of aquaculture in the Gaeltacht regions. BIM presently operates several aquaculture grant schemes which are designed to modernise the sector, improve efficiencies and develop a sustainable aquaculture industry. All schemes are aimed at aquaculture operators who are in the SME sector. Additionally, BIM provides expert and hands-on technical support to the aquaculture sector in the form of technology transfer, advisory workshops and training services.</p> <p>The Marine Institute is the national agency responsible for Marine Research, Technology Development and Innovation (RTDI) and supports the marine, fisheries and aquaculture sectors. The Marine Institute is mandated to undertake, to coordinate, to promote and to assist in marine research and development in accordance with the Marine Institute Act 1991. The Institute acts as the implementing body, on behalf of its parent department DAFM, for dedicated marine research funding. The Institute tracks and provides notification of research funding opportunities from agencies including, but not limited to: § Science Foundation Ireland; § Irish Research Council; § Enterprise Ireland; § Environmental Protection Agency; § Sustainable Energy Authority of Ireland; § Geological Survey Ireland; § InterTrade Ireland.</p> <p>Nationally, there are additional support bases of research providers including Universities, Institutes of Technology and a number of private research units supporting the research needs of Irish aquaculture. These include Aqua TT Ltd, University College Cork (Coastal and Marine Resource Centre/Aquaculture and Fisheries Development Centre/Zoology Ecology and Plant Science), National University of Ireland Galway 65 (Martin Ryan Institute), Trinity College Dublin, Dundalk Institute of Technology, Institute of Technology Sligo, Cork Institute of Technology and Daithi O’Murchu Marine Research Station/Indigo Rock Research Station. Other research providers to the Irish aquaculture sector, some of which are also project participants as SME’s, are - Cartron Point Shellfish Ltd, Clew Bay Marine Forum, Clew Bay Oyster Group, Atlantic Shellfish Ltd, Teagasc, Athlone Institute of Technology, University of Limerick, Galway Mayo Institute of Technology, Queen’s University Belfast/ Portaferry Marine Laboratory, University of Ulster, University College Dublin and Dublin City University.</p>
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Question 19: How can SMEs in the aquaculture value chain receive support for expanding to new (foreign or domestic: EU, rest of the world) markets in your region?

ADR-BI	At this moment (until 2020), Bucharest-Ilfov Region is restricted from funding.
LIGURIA	The EU measure POR FESR 3.4.1. has been intended to help all the value chain, this fund goes together with the regional action plan which, for aquaculture, give information, support, direct help for new SMES to be launched and implemented
NRDA	Yes, usually there in Lithuanian are EU funds. Now there are some programmes running: Marketing tools. Republican Fisheries Products Promotion Campaign (2019); Processing of fishery and aquaculture products (2019 I) (Simplified support); Productive investments in aquaculture (2019 I) (Simplified support); Partnership between scientists and fishermen (2019); Reducing the impact of fishing on the marine environment and adapting fisheries to protect species (2019 I); Marketing tools (2019); Value added, product quality and use of unwanted by-catches (2019).
Lapland	no data

NCC	Enterprises under regional operational programs can get support for introducing their products or services to foreign markets.
UPAT	The axes of interest for aquaculture are mainly "Priority 2" with a total budget of 89.7 million euro, where 11 different actions are planned to be funded and "Priority 5", where the financing of marketing and processing actions is foreseen, and has a total budget of 50 million. One of the most important pending issues, of the Operational Programme of Fisheries and Sea, for the sector, in general, is that the institutional framework for financing the measures concerning the financing of Producer Organizations and Production and Trading Plans, is not complete.
WDC	Enterprise Ireland is the government organisation responsible for the development and growth of Irish enterprises in world markets. We work in partnership with Irish enterprises to help them start, grow, innovate and win export sales in global markets. SMEs in the aquaculture value chain can receive ongoing support from EI.

Question 20: What is the procedure for registering aquaculture products for geographical indications (PGI), protected designations of origin (PDO) and traditional specialities guaranteed (TSG) in your region?

ADR-BI	Registering aquaculture products for geographical indications (PGI), protected designations of origin (PDO) and traditional specialities guaranteed (TSG) is managed by the Ministry of Agriculture and Rural Development and is described here: http://www.madr.ro/industrie-alimentara/produse-traditionale-romanesti.html
LIGURIA	no data
NRDA	This is organised by Lithuanian Ministry of Agriculture. The companies can fill in the application and this application is evaluated according the rules of registering products for PGI, PDO and TSG. But mostly non aquaculture products are included in these lists
Lapland	<i>Not used in Lapland this far</i>
NCC	To obtain the right to mark a registered product with an appropriate mark of conformity, the manufacturer must report to the authorized certification body and submit to an inspection which is to confirm that the product is manufactured in accordance with the previously prepared and registered by the producer group specification. The control of the process of production, processing and preparation of registered products carried out by the certification body guarantees that the terms Protected Geographical Indication (CHOP) and Protected Designation of Origin (PDO) or Guaranteed Traditional Specialty (GTS) and their symbols appear only on products that meet the requirements included in the specification. Control and certification costs: Each producer who receives a certificate can apply for reimbursement of costs incurred from the National Centre for Agricultural Support under RDP 2014-2020 "Support for accession to the quality system" sub-measure 3.1.

UPAT	<p>Fish roe of Messolonghi is a product with protected designations of origin (PDO). The procedure for registering aquaculture products for geographical indications (PGI), protected designations of origin (PDO) and traditional specialities guaranteed (TSG) in our region, does not differ at the rest of the country and other products and foodstuff. The scrutiny of each application is carried out in two stages, in national level in Greece and EU level. It is a long term procedure due to the different stages are included.</p> <p>In order to attract SMEs into registering their aquaculture products, the system could be simplified by submitting the application in both levels at the same time and continuously the scrutiny of each application to carry out at the same time and in defined and strict timetables.</p>
WDC	<p>Groups or persons interested in applying for PDO/PGI/TSG product classification or in participating in existing schemes should contact the Department of Agriculture, Food and the Marine as the competent authority (GeographicalIndications@agriculture.gov.ie). Under S.I. No. 296 of 2015 the Department of Agriculture, Food and the Marine (DAFM) and the Health Service Executive (HSE) are the inspection bodies for this EU quality scheme.</p>

Question 21: Are there specific rules that restrict foreign direct investments in aquaculture in your region?

ADR-BI	There are no special rules for foreign investments in aquaculture sector.
LIGURIA	No
NRDA	There is a common FDI strategy focused on the development of the agriculture, forestry and fisheries sectors. There are no special rules for foreign investments in aquaculture sector, they can restrict the amount of FDI
Lapland	No
NCC	There are no special rules for foreign investments in aquaculture sector.
UPAT	The limited number of foreign direct investors is mainly due to a multipolar institutional framework, time-consuming administrative procedures, high taxation, institutionalization of Organized Aquaculture Development Areas, high costs etc.
WDC	Not specifically, however a backlog of 6yrs to obtain a permit would seem to act as a virtual barrier to FDI

Question 22: Has your region taken measures to promote employment in the aquaculture value chain?

ADR-BI	Not, at this moment not
LIGURIA	Yes, as specified above the FEAMP instrument has been used by Liguria to promote employment on aquaculture in our territory.

NRDA	No
Lapland	No
NCC	<p>The European Commission has adopted a program worth 710.5 mln euro investment package for the Polish fisheries and aquaculture sector for the years 2014-2020.</p> <p>The adopted program is aligned with the priorities of the European Maritime and Fisheries Fund (EMFF) and the reformed Common Fisheries Policy of the EU (CFP). As a result, the funds will be directed to three main areas:</p> <ul style="list-style-type: none"> • supporting the objectives of the CFP to ensure more environmentally friendly fishing and aquaculture activities; • stimulating the development of aquaculture; • improving the living conditions of local communities dependent on fishing and aquaculture, through the creation of jobs and alternative sources of income.
UPAT	<p>People interested for employment in aquaculture are registered at the labour force Agency as Unemployed, Individuals / Employees, Employers / Businesses, Providers and can have Counselling Services (Personalized Approach, Vocational Guidance and Reorientation, Counselling of Job Search Engineers and Business Involvement Counselling), participate in Employment Programs and Vocational Training, New Entrant Subsistence.</p> <p>For our region is not known any particulate measure in order to promote employment in aquaculture value chain, taking into account the high percentages of unemployment in the country and the difficult economic condition in it and the farmers (due to the low selling price of fish).</p>
WDC	TBC – For example the WDC and others (UnG) have directly supported the aquaculture sector through access to finance instruments and loans etc.

Question 23: Does your region provide education and training possibilities relevant to aquaculture production and processing?

ADR-BI	
LIGURIA	Yes, with the FLAG association (local action group) provide training and education not only for new entrepreneurs, but also for the requalification of existing ones.
NRDA	In Lithuania are academic institutions, they are working in this field: Klaipeda University, Klaipeda state college and Aleksandras Stulginskis University. These institutions are responsible for preparation of specialists, and for organising of different seminar etc. As well they are doing research in this field.
Lapland	Not really

NCC	<p>In Poland there are available various types of courses and trainings to potential employees of the sector, co-financed from EU funds. In Poland there are also fields of study focused on this industry. A graduate of studies should have knowledge and skills in the area of:</p> <ul style="list-style-type: none"> • collecting, processing and analysing water samples • functioning of aquatic organisms • basics of veterinary medicine • business terminology • negotiation techniques • basics of the IT industry and construction of machines used in aquaculture • examination of aquatic organisms
UPAT	<p>There are sometimes seminars to the aquaculture producers from the state for the diffusion of the institutional framework. Seminars, also, take place for the training of incompetent workers initiated by the production and processing units.</p>
WDC	<p>BIM offers a Seafood Training Scheme for the course fees and subsistence costs incurred when you undertake training in the Irish catching, fish farming and seafood processing sectors. Funding for training is available in the following areas;</p> <ul style="list-style-type: none"> • Commercial Fishing • Fishing Vessel Engineering • GMDSS Radio Communications • Skippers • Aquaculture • Commercial Diving • Safety, Health and Welfare at Work • Seafood Processing <p>BIM also offers a Seafood Capacity Building Scheme for assistance to stage conferences or workshops and attend overseas at conferences, workshops, seafood trade shows and other networking events.</p>

Question 24: Which policies ensure the availability of funds dedicated to starting up a business, as well as supporting start-ups and SMEs the aquaculture value chain in your region?

ADR-BI	The national policy
LIGURIA	As specified above, the EU FEAMP instrument together with regional laws are the pillars for any SME who has the intention to start a new business.

NRDA	The EU foundation and national policy.
Lapland	No data
NCC	The EU foundation and national policy.
UPAT	There are several European financial instruments for start-ups and SMEs, but in aquaculture value chain, large scale business cost about 500.000-1.000.000€ and taking into account the product Price fluctuation, the Lack of data sharing, the Ineffective legal framework, the Absence of generic marketing and the poor technical improvement on farming, act antireflective to the new businesses.

WDC	<p>Enterprise 2025 sets the strategic framework for coherence across Government departments to focus resources to develop a better future and to deliver sustainable enterprise growth and jobs. Enterprise development and an active entrepreneurial ecosystem is central to enterprise policy. Enterprise 2025 outlines key Government policy directions for enterprise development in Ireland, these strategies include:</p> <ul style="list-style-type: none"> • The transformation and change in the performance of new companies in Ireland to help embed a culture of innovation and continuous change; • Strong locally trading and employment intensive enterprises to improve competitiveness; and • Stimulate job creation throughout Ireland so that unemployment in each region is within one percent of the State average. <p>Enterprise 2025 outlines the benefits of developing a competitive enterprise base noting that it aids in driving productivity growth, further investment and creates jobs which delivers higher standards of living, making Ireland a more attractive place to invest. Through exchequer returns, enterprises contribute to the provision of essential public services including infrastructure, healthcare and education. Enterprises can also contribute to enhanced quality of life and the attractiveness of towns and cities by providing quality retail outlets, restaurants, professional and personal services and by engaging in collaborative regionally based initiatives. In addition, innovative enterprises can contribute to realising national policy priorities in areas such as smart infrastructures, healthy ageing, food security and a sustainable environment to deliver better outcomes for citizens. Start-ups are by nature small companies, but they play a very important role in economic growth. They create jobs, which directly contribute to the economic prosperity of the country and inject innovation in terms of products, technology and business models that spurs competition leading to greater economic prosperity. For example, research published by the Central Bank of Ireland in 2013 concludes that 67 percent of new job creation comes from companies within their first five years. DBEI has also developed a “National Policy Statement on entrepreneurship in Ireland”.</p> <p>This Entrepreneurship Policy Statement sets out several strategic objectives that are based on an assessment of Ireland’s existing position and an assessment of international practice. The Statement addresses each of the elements that make up the framework for entrepreneurs and are specifically designed to help them grow and flourish. The National Policy Statement on Entrepreneurship in Ireland aims to;</p> <ul style="list-style-type: none"> • Increase the number of start-ups by 25% (3,000 more start-ups per annum); • Improve the capacity of start-ups to grow to scale by 25%; and • Increase the survival rate in the first five years by 25% (1,800 more survivors per annum). <p>These targets have also been carried forward into national enterprise policy (Enterprise 2025 renewed7) as the keys measures in which Ireland expands the pipeline of start-ups and develops dynamic and best in class hubs in which the regions stimulate innovation, collaboration and sustainable growth. These include;</p> <ul style="list-style-type: none"> • Increase no. of start-ups measured by the number of enterprise births per annum to 18,848 by 2020, (18,100 in 2015); and • Survival rate of start-ups (5 years) economy -wide measured by the increase in number of enterprises surviving to 5 years by 25% to 12,495 by 2020 (9,331 in 2015); and • Increase in scaling activity measured by Enterprise Ireland Firms with greater than €3m sales out of Ireland to 1,100 by 2020 (1,003 in 2015). <p>The WDC also offer a variety of access to finance instruments which have been used by the aquacultures sector to grow businesses</p>
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