## AQUA-LIT

# PLAYERS AT PLAY COUNTRY PROFILE: ITALY



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### **AQUA-LIT project**

**AQUA-LIT** is an EASME-EMFF funded project that aims at providing the aquaculture sector with a sustainable **toolbox** of innovative ideas and methodologies to address the 3 main components of marine littering: **prevention & reduction, monitoring & quantification, and removal & recycling.** 

To fulfill this mission, we will be working face-to-face with aquaculture farmers in three **regional Learning Labs**: at the **Mediterranean basin, the North Sea and the Baltic Sea regions.** In parallel, we will identify and cluster existing, upcoming and already implemented tools on marine littering, and we will further **develop a platform and an app** for providing the **'Tide against marine litter toolbox'.** 

Lastly, we will 'scale up the tide' by developing the 'policy for less litter' set of recommendations, by showcasing the 'funding a wave of solutions' available for the sector and by coming up with a transferability plan for outermost regions.

Through this, we expect to help all stakeholders from the aquaculture chain to increase the understanding, awareness and availability of solutions, so a potential **transformation of the aquaculture sector towards a less polluting sector** can become possible.





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Geonardo Environmental Technologies (GEO)



European Centre for Information on Marine Science and Technology (EurOcean)



AQUA-L

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### **AQUA-LIT country profiles**

The AQUA-LIT country profiles present a description of the different aquaculture stakeholders, categorised by the four different stages in the life cycle of an aquaculture farm: 1) Initiation, 2) Development, 3) Operation and 4) End of life.

The country profiles were compiled for the two most extensively studied countries in each of the three sea basins of the AQUA-LIT project: Italy and Spain in the Mediterranean Sea, Belgium and France in the North Sea and Denmark and Germany in the Baltic Sea.

The country profiles resulted from various stakeholder engagement processes carried out during the project: the <u>interactive workshops</u> as well as individual stakeholder interviews. More information on the contributions from the aquaculture stakeholders can be found in the Learning Lab reports of the <u>Mediterranean Sea</u>, the <u>North Sea</u> and the <u>Baltic Sea</u>.

The country profiles can also be consulted in the annex of the <u>Knowledge Wave on Marine</u> <u>Litter from Aquaculture Sources.</u>



#### Annex 5: Country profiles – Mediterranean Sea

### ITALY

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#### Initiation

#### Bodies approving the aquaculture technology (classification and certification bodies)

In 2001, the Italian Agency for Environmental Protection and the Central Institute for Scientific and Technological Research Applied to the Sea drafted the guidelines for the application of the EMAS Regulation (Parliament and Council Regulation (EC) No.761/2001 allowing Voluntary Participation by Organisations in a Community Eco-Management and Audit Scheme) to the aquaculture sector (FAO, 2015).

In Italy, there are several bodies responsible for standardisation, accreditation and certification. The certification is a tool with which the company (also a group of companies united in a consortium) demonstrates compliance with a given standard, such as <u>ISO</u> and <u>UNI</u> (Aqcuacoltura Responsabile, 2001). There are two types of certifications: one of the product (D.O.P. – IGP) and one of the system. These (ISO 14000 and EMAS) focus on the interaction and impact of the company on the environment and are based on principles of correct management of the production processes, continuous improvement of environmental performance and control of activities generating impacts (Piano Strategico Acquacoltura, 2014).

Other types of certifications applied in the Italian aquaculture sector are:

- <u>Biological Aquaculture</u>
- ASC Certification
- Friend of the Sea

Aquaculture companies in Italy are nowadays pushed by retailers (e.g. Coop supermarket chain) to be certified (e.g. EMAS) in order to be able to sell these products in their supermarkets.

#### Authorities approving the aquaculture farm (i.e. public authorities)

Aquaculture is defined in the <u>Law No.102 of 1992 on Aquaculture</u> as the activity aiming at the production of animal proteins in an aquatic environment, through the partial or total, direct or indirect control of the development cycle of aquatic organisms, aquatic plant farming (seaweed) (FAO,2015).

The National Fisheries and Aquaculture Policy is currently established by three-year plans that are specified every year in a short-term plan. It underscores the importance and diversification of aquaculture in Italy and stresses the need for it to grow according to the rules of the European Union. Three priorities are set forth:

• Site identification (balance between productivity and environmental impact);

- Products' quality (certification trademarks to acquire a satisfactory market position);
- Positive environmental effects (such as the conservation of wetlands through valliculture (vallicoltura), an extensive fish farming method mainly used in the North-East of Italy).

The approval of a new farm follows a complex procedure, which depends on the dimension of it (if smaller than 5 ha, it has less limitations), location from the coast, or proximity to a protected or NATURA 2000 area. In the latest case, the farm will have limitation of dimension permitted.

Many authorities are involved in the authorisation process, on different levels. The main authority in the field of fisheries and aquaculture is the <u>Ministry of Agriculture and Forest</u> <u>Policies</u> (*Ministero delle Politiche Agricole e Forestali*), Directorate-General for Fisheries and Aquaculture (*Direzione Generale per la Pesca e l'Acquacoltura* – PESC). The Ministry of Infrastructure and Transport (<u>Ministero delle Infrastrutture e dei Trasporti</u>) has only the responsibility of granting concessions for the establishment of new aquaculture facilities on maritime and inland State property, via the Directorate-General for Maritime and Inland Navigation Infrastructures (*Direzione Generale per le Infrastrutture della Navigazione Marittima e Interna*), operating within the Department of Navigation and Maritime Transport (*Dipartimento per la Navigazione e il Trasporto Marittimo e Aereo*) (FAO, 2015).

Local Administrations	Technical Public Bodies and Control Authorities (Italy)	National Administration (Italy)
Municipality	Local Health Authority	Ministry of Health
Province	IZS (Experimental Zoo- prophylaxis Institute)	Ministry of Agriculture (MIPAAF)
Region	ARPA (Regional Agency for Prevention and Environment)	Ministry of the Environment
	Local Agriculture Inspectorate	Ministry of Economy and Finance
	Basin Authority	
	Port Authority	
	Local Finance Office	
	Police authorities	
	(GDF, Corpo Forestale, PS, CC, etc.)	

Figure 2: Italian Public administration with higher incidence in aquaculture activities

The administrative powers concerning aquaculture management are vested in the Regional Authorities, while general guidance and coordination tasks are still performed by the Central Government. If facilities are placed within three kilometers from the coast, it needs a special approval from the Ministry of Agriculture.

At national level, the authorization system for the conduct of fisheries and offshore aquaculture is regulated by Legislative Decree No.153 of 2004 on Marine Fisheries. Moreover, a concession is required for the use of the maritime State property and public inland waters, and for the construction of aquaculture facilities (FAO, 2015).

The procedure to obtain an authorisation for opening an aquaculture activity coincides with some criteria of fisheries permisison: anybody intending to establish a new aquaculture plan has is subject to registration in section 1 of the register of maritime fishermen (*registro dei pescatori marittimi*), and in section 5 of the register of fishery companies (imprese di pesca), both held by the Port Captainry (*Capitaneria di Porto*) (FAO, 2015).

The access to the maritime State property (beaches, coasts, ports, lagoons, estuaries, brackish water etc.) is managed by the Maritime State administration. Inland waters access has different regulations. The access, under concessions, for over 15 years have to be granted by decree of the Minister of Transport, while the ones not exceeding 4 years, not implying the construction of permanent or semi-permanent facilities, are issued by the Chief of the Maritime Compartment. For concessions lasting more than 4 years and less than 15, or less than 4 years but implying the construction of permanent or semi-permanent or semi-permanent facilities, they must receive the approval by decree of the Maritime Director. The annual concession fees (*canoni*) are established by the law. The granting of concession is also subjected to the decision of the Civil Engineering Body, the Finance Authority and the Customs Authority (for more info for criteria at FAO website: <a href="http://www.fao.org/fishery/legalframework/nalo\_italy/en">http://www.fao.org/fishery/legalframework/nalo\_italy/en</a>) (FAO, 2015)..

State property concessions concerning offshore facilities set up near the customs line or in the territorial sea are granted by the Director of the Customs District responsible for the concerned area. Onshore facilities have other type of requirements. (FAO, 2015).

An example of list of procedures and applications necessary for the establishment of a new aquaculture plant in Italy:

- The administrative licence for maritime state property from the local harbour office, which is obtainable after many authorisations (for example customs office);
- The municipal building commission (given by the municipality, but after consultation with other entities);
- Permission from the local board of health;
- Permission from the regional office for the protection of environmental resources (Procedure for obtaining the declaration that the area identified for the aquaculture plant is not subject to environmental or landscape restrictions);
- Opinion of Chamber of commerce;
- "nulla-osta" from the regional division of agriculture and forestry;
- Authorisation from the responsible authorities to discharge the water;
- If the new fish farm is located in areas subject to special protection laws, a "nulla-osta" is necessary from each public body entrusted with the protection of the area.

#### Environmental assessment and legislation:

Italy lacks a systematic legislative framework for Environmental Impact Assessment, in particular with regard to Council Directive (EEC) No.337/1985 on the Assessment of the Effects of Certain Public and Private Projects on the Environment, which has only partially been implemented. Concerning aquaculture, the Decree provides that only projects of farms over 5 ha to be established, totally or partially, in a protected area are subject to EIA. However, projects to be developed outside protected areas are subject to a verification procedure, in order to determine whether an assessment is actually needed. Applications must be filed with

the competent Regional Authority, jointly with a copy of the project and an environmental impact study. The latter shall provide at least the following information (FAO, 2015):

- Project description;
- Potential effects on the environment;
- Applicable environmental and land use provisions;
- Mitigation and repair measures.

Recently, the government established "<u>The Strategic Plan for Italian aquaculture</u>", which is the government tool for planning aquaculture activities in Italy for the period 2014 – 2020. The Plan responds to the need required by the new European aquaculture policies and pursues the "smart, sustainable and inclusive" innovation and growth objectives supported by the Europe 2020 Strategy and Blue Growth. The Plan identifies 4 strategic areas of intervention at national level and sets the expected objectives of economic growth, social equity and responsible use of environmental resources. It is a document drawn up with an intense participatory path, which presents the combined vision of the Central Administration, the Regions and the stakeholders in various capacities involved from the outset in the preparatory process.

The specific objectives of the plan are:

- Support to the strengthening of technological development, innovation and knowledge transfer;
- Strengthening, competitiveness and profitability of aquaculture enterprises;
- Development of new professional skills and permanent learning;
- Improvement of the market organization of aquaculture products;
- Promotion of a sustainable and efficient aquaculture under the profile of the use of resources;
- Promotion of aquaculture that guarantees a high level of environmental protection, health, animal welfare and public safety;
- Strengthen the institutional capacity and simplify the administrative procedures.

One of the aims of the plan is to identify areas allocated for the development of aquaculture, which will be based on environmental indicators, GIS systems, environmental monitoring protocols and impact models, and defining environmental quality standards.

#### Development

### Those constructing, bringing, assembling the farm and aquaculture installations & system designing & engineering companies

Constructing and assembling a new farm is managed by hired companies (such as <u>SCUBLA</u>, <u>Modena Antonio</u>, <u>Ravagnan</u> s.p.a), which are specialised of different type of aquaculture facilities (offshore cages, clams farms etc). All items and gears are checked by an authorized bodies (certifications such ISO or Bureau Veritas). In the aquaculture sector, as in fisheries, vessels and other floating facilities need to be registered with the competent office of the maritime compartment or with other authorities as established by the Minister of Infrastructure and Transport, and must be qualified for navigation through the granting of a nationality document (*atto di nazionalità*) or a license. (FAO).

Part of the aquaculture material and gears is still imported from other countries. One of the Italian biggest producer of aquaculture gears, <u>TechnoSea</u>, is now working on finding more sustainable material to produce items for aquaculture activities.

On a general term, aquaculture producers are now focusing on new technologies for creating more resistant offshore nets, and especially in finding solutions to prevent biofouling on the nets. If biological residues get attached to the offshore nets, fishes are tempted to bite the nets, increasing the likelihood to deteriorate and break.

Another area of experimentation now in Italy focuses on finding alternative solutions to the nylon made "socks" used for farming mussels. <u>Novamont</u> is a raw material production company which is now working on developing a biodegradable material to be used for mussels farming socks. Novamont is collaborating with the <u>University of Siena</u> and one mussel farm in Liguria, for testing the applicability. The material is made to be discarded in the compost, which could exempt farmers to pay taxes on the end of life of the nets and reduce waste. Biodegradable nets have been already tested in the field, with positive results, but they still need to be improved in order to compete with the current cheap nylon alternative.

#### Operation

#### Aquaculture producers and operators

In Italy, 97% of aquaculture production is based on five species which are rainbow trout, European sea bass, gilthead sea bream, Mediterranean mussel and Japanese carpet shell. The most important species cultured in marine and brackish waters are European seabass and gilthead seabream (FAO, 2015).

Italy counts around 600 finfish farms, of which approximately 50 offshore farms and around 300 shellfish aquaculture companies, plus other consortia. Some companies and facilities are quite small. There are few big ones, and the majority are middle size.

The Italian aquaculture sector is organized in several professional associations and cooperatives, putting forth the interests of aquaculture farmers in the political debate. The most important organizations at national level are:

Associazione Piscicoltori Italiani (API), representing finfish aquaculture farmers,

Associazione Mediterrana Acquacoltori (AMA), representing shellfish aquaculture

And others:

- AGCI PESCA Associazione Generale Cooperative Italiane della Pesca.
- FEDERCOOPESCA Federazione Nazionale Cooperative della Pesca.
- LEGAPESCA Associazione Nazionale delle Cooperative di Pesca.

Among the above-mentioned associations, API, party to <u>FEAP</u> (Federation of European Aquaculture Producers) adopted a *Code of Good Farming Practice in Aquaculture* in line with the FAO Code of Conduct for Responsible Fisheries and with the FEAP Code of Conduct for European Aquaculture. The code mainly tackles the following topics:

• Health and hygiene of farms;

- Eco-compatibility of aquaculture;
- Food and food safety;
- Traceability.

In 2017, the Ministry of Agriculture, Food and Forestry Policies with <u>Ministerial Decree No. 8004</u> of 5 April 2017 established the <u>Italian Aquaculture Platform (ITAQUA)</u> as a online space for various stakeholders to collect needs and propose useful solutions for growth and competitiveness of aquaculture. The goal of the initiatives carried out by ITAQUA is to improve organisational coordination and involvement of aquaculture operators, institutions and regions of competence. The ITAQUA platform is managed by the <u>MIPAAF DG PEMAC</u> with the technical support of the <u>Council for Agricultural Research and Agricultural Economics Analysis (CREA)</u>.

#### Aquaculture maintenance and monitoring

Monitoring of aquaculture environmental impact is mainly regulated looking at organic debris treatment and management (legislations under the WrFD). Monitoring of non-organic litter is not regulated, but all farms need to constantly carry out a maintenance process of all their gears.

A constant control of the offshore nets in finfish aquaculture is carried out by divers, who check the status of the gear. Usually, after about one year (time for one productive cycle) the nets are brought on land, checked, cleaned restored and brought to sea again.

There are several certifications that farms can apply for, including waste monitoring and management criteria. Big farms need to have <u>EMAS</u> certification (see certification section).

#### End of life

#### Those managing/governing the waste management

Finfish aquaculture farms in Italy are treated as terrestrial farms, therefore they must comply to the decree (lay 152) which specifies rules for waste management. Finfish aquaculture farms must have specific waste collection facilities in land, where they separate waste material (plastic etc.). Farmers need to contract external companies which deal with wasted material and must declare all the material they eliminate. A waste tracking system, <u>SITRI</u>, was fully implemented in 2019, delivered by the <u>Italian Ministry of Environment</u>.

Taxes are imposed on waste and vary according to the material (e.g. oil from the boat need to be specially treated and will have higher disposal cost). Use of plastic packaging is also taxed, both on the producers and on the user (e.g. usually it's kilo payment: 10 cent per 1 kilo of plastic. <u>http://www.conai.org/</u>)

In general, **finfish aquaculture** waste in Italy is pretty well managed. Periodic controls are carried out to check if farms are following waste management rules, disposing and tracing them properly. For example, plastic bags used for feeding must all be declared when purchased and afterward disposed.

However, lack of waste collection sites in some ports remains, mostly related to **mussel farms**, which do not have facilities on land, and therefore no waste disposal sites available in the port nearby. A periodic check of the product together with waste system in place in the farm is done by <u>ALS</u> (Local Health Authority) periodically. However, mussel farms often do not have

terrestrial plants (only offshore one) and therefore do not have available collective points for their waste. There is still no specific control or regulation of the management and disposal of used mussel socks, and often there are no collective points in the ports, nor well-defined recycling procedures.

Currently used mussel nets in Italy are considered a special non-hazardous waste (with CER code) and therefore their correct disposal entails significant financial costs (3-5 cents / kg). The attribution of the CER code derives from the organic material (biofilm, animal residues, etc.) attached to the surface of the nets, therefore its removal would allow its declassification or, better, the recovery and recycling of polypropylene within the same or another supply chain. Farmers have (expensive) partnerships with waste management companies that are hired to collect the waste (especially mussels nets) and properly dispose it. However, often they do not have space in the port to rack them up, which forms a barrier for a good waste disposal. Mussel nets are often lost due to storms, low care during mussel harvesting with machines and the difficulty of disposal.

Italy has recently approved the law "Salva Mare" which allows fishermen to collect any type of plastic and nets found in the sea, and to bring them in special collection points. This encourages fisherman, and eventually farmers, to collect waste they found while fishing, including mussel nets and other aquaculture dispersed items.

Dismantling process of the end of life of the farm is conducted by a third specialised company. Waste disposal and trace is controlled by an authorised body.

#### References

#### Stakeholders interviews

Fao, 2015: http://www.fao.org/fishery/legalframework/nalo\_italy/en

Piano strategico Aqcuacoltura, 2014 [details]

Acquacoltura Responsabile, 2001<sup>[details]</sup>