



SUFISA MUSSELS REPORT AN EXTENDED SUMMARY

MAY 2018



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI SCIENZE E TECNOLOGIE
AGRO-ALIMENTARI



Emilia Romagna
Mussels report
(Satellite case study)
An extended summary

*Authors: Francesca Minarelli, Meri Raggi, Francesco Galioto,
Davide Viaggi*

University of Bologna

May 2018



H2020-SFS-2014-2

SUFISA

Grant agreement 63557

Introduction

The purpose of this report is to investigate the policy requirements and market imperfections, and their implications for the resilience of mussels in the Emilia Romagna Region, Italy (**Errore. L'origine riferimento non è stata trovata.**), as part of the EU-funded Horizon 2020 project, SUFISA (Sustainable finance for sustainable agriculture and fisheries). This extended summary has been derived from a much larger report, which is available from: <http://www.sufisa.eu/publications> (project reports).

On a global scale, China and the EU are the two largest producers of mussels, followed by Chile and New Zealand. Europe supplying over a third of the total production. The overall production of mussels in Europe peaked at nearly 750.000 tonnes. The level of consumption is highly variable according to country, but it is mainly concentrated in four countries Spain, Denmark, Belgium and France. Aquaculture is by far the main source of mussels and is responsible for over 90% of total production (Prioli; 2004).

In Italy, the cultivation of mussels is well developed and this species represents 48% of the volume of all farmed marine products. Italy represents the third main producing country with about 65.000 tonnes. Installations of mussels are distributed throughout coast region, mainly concentrated in the part of coast from Porto Garibaldi to Goro.

In Emilia-Romagna, as well as at national level, mussels sudden developed in the 80's, with the advent of technologies related to the "off-shore" implants. In fact, with the spread of the first breeding facilities in the second half the 80's ER has reached considerable technological and productive level. In Emilia Romagna region, the mussel breeding is related to a single species, *Mytilus galloprovincialis*. This is a native species of the local fauna. The seed which is used for breeding is mostly found locally in its natural environment. Since seeds from artificial reproduction may cause genetic differences these are not used (Prioli et al., 2001).

In 2014, Emilia-Romagna produced 22.200 tonnes of mussels becoming the first region in Italy for mussel production. Emilia-Romagna has become the location of the most important manufacturing companies equipment's and boats for this activity (Malorgio et al., 2012)

Figure 1. Case study area: Emilia Romagna Region



The census revealed that in Romagna Sea there are 27 companies with a mussel plant offshore in long-line. The province with the largest number of companies is Ferrara with 16 units, followed by Rimini with 6, Forlì-Cesena 3 and Ravenna with 2.

All together, these companies employ 314 production workers, of which 248 fixed and 66 temporaries. As for the fixed operators, the province with the highest labour force is Ferrara, with 129 units.

During last decades shellfish farming has become a prominent activity in Emilia Romagna contributing not only to create a new occupation, but also to mitigate the fisheries crisis. In fact, a large number of Fishermen is converting all or part of their activities. This type of trend has determined a gradual change not only in term of production, but also in respect of marine resources management and exploitation.

Mussels: Market and marketing conditions

The mussel is a seasonal product having some problems related to the fragmentation of the supply chain due to the lack of a solid organization among producers.

Due to the lack of POs, the difficulty in commercialization is remarkable. Companies committed themselves into emerging markets, especially abroad in the north of Europe. However, mussel varieties cultivated in Italy are not appreciated in most part of northern countries (Netherlands, Sweden, and Denmark) which preferences are oriented toward other mussel varieties. In fact, Northern European countries import mussels from Denmark and Ireland. An option offered is the reintroduction of mussel cultivated in Italy into existing growing of France and South of Spain.

The mussel is a seasonal product having some problems related to the fragmentation of the supply chain because of the lack of a solid organization among producers.

The core issue in mussel sector is not the production but the trade. In fact, producer organizations do not exist. This aspect complicates not only the commercialization but also the definition of price. The price of the product is defined in the area where the first harvest takes place, which is in Goro within Ferrara province. In this area, price is the lowest because mussels are grown simultaneously with clam reducing total production costs. Moving to Cattolica and Cesenatico the price increases, because of the labour costs, reaching highest values and suffering the competition from the other Italian area.

Mussel producers lack of commercial skills. The businesses deal almost exclusively with the production aspects while marketing is managed almost entirely by dealers.

The product can be placed on the market or directly sell to restaurant, to growing implants or to privates. Some areas of the Romagna coast have identified a common trader “Mititlicesenatico” and have applied for the certification. Growers of other area instead, have maintained an autonomous commercialization.

Spain represents one of the main competitors on commercialization. In particular, in Spain Mussel market is characterized by the presence of Producer Organizations and absence of off shore implants allows keeping lower price compare to Italian once, which usually are estimated to be around 60-70 Cent/kg. The existence of Producer Organizations in Spain is strictly related to the mussel variety cultivated in those areas. In fact, this one requires a processing treatment before commercialization that variety cultivated in Italian area does not require.

Another competitor is represented by Greek market, more than Spain, because the Greek product reaches the maturity level in the same period of the Italian one, i.e. from May to September.

Mussels: Institutional arrangements

It can be noted that the most part of the concessions and consequently implants, are currently cooperative that, in most cases, entrust to companies associated to them for production facilities. These are micro businesses, traders, or L.T.D. companies, employing a small number of employees and that are equipped with one, rarely two boats to carry out the farming activities. In most cases, they shall independently carry out the marketing of the product and the investments for the improvement of facilities or purchase of machinery. Nevertheless, there are cases in which the members of one or more plants are brought together to market their product. This fragmentation is a major limitation in terms of product enhancement and, in most cases, does not allow having sufficient capital to cover new investments and to face crises caused by natural disasters. Although, this has not prevented certain dynamism in the last five years, in which they performed several, mainly modernization, investments (purchase of boats and ancillary equipment) (G.Prioli, 2011).

With regard to the management and processing operations, the production process can be summarised in three main phases: sewing, socking and harvest.

From the beginning of sewing, it takes a period of about 8 to 12 months to the harvesting of the finished product. The seed gathering occurs twice a year: late in the winter and then during the autumn. When the molluscs have reached a size of 2 to 2 ½ cm, which usually corresponds to summer season, the retrieval take place. For socking, plastic tubes are used.

The production of mussels has a main peak in the period from March to June, and this creates considerable problems for the organization of marketing. This is due largely to the influence, often concomitant of three main factors: the adoption of breeding technique, the natural replacement of young fish, and the performance of the reproductive cycle.

Because of the regulation in 2004, the public concessions have a different cost depending on if they are a private enterprise or a co-operative. Co-operatives pay a contribution of 0,4 Cent while an entrepreneur pays 1€. This aspect has an important impact in terms of cost to be corresponded to the Regional institution for the public concession.

This difference in price has determined a large conversion of private enterprises into co-operatives. This transformation is in fact, more from a formal point of view than practical, where the commercial management remain the same as in an enterprise.

Mussels: Policy and regulatory conditions

Subsidies in Aquaculture, depending on European Maritime and Fisheries Fund (EMFF), cover around 50% of the investment. However, since the majority of firms in this sector are small-medium size enterprises that do not have the necessary financial resources to cover the remaining part of investment, they need to apply for a credit access.

Mussel in order to be sold to the big retailer organization must pass through the inspection centre. At this stage all sanitary controls are performed. Regulatory sanitary conditions are established at regional level and then applied with different protocol at municipality level. The levels of control imposed by law are severe and frequent; however, the accomplishment of them is not homogenous in the Italian territory. The Adriatic Sea coast and offshore in the northern-centre part is highly controlled.

In these last few years, there has been a negative market trend mainly due to the adaptation to new productive and sanitary regulation introduced by EU.

Mussels: Environmental issues

Some of the main environmental issues related to the mussel growth is related to the dispersion of catabolism substance expelled by mussels that can reach the coast. In particular, in case of offshore implants, where the implant level is not as deep as in depth coastal zone, the sea flow lead back rests to the coast. On the

other hand, mussel absorbed Nitrates and Phosphates, so they have positive effect on the Eutrophication. (G. Prioli, 2011)

Mussels: Drivers, strategies and future performance

Strategies in response to market and marketing conditions:

In particular, the adoption of Organic certification allowed some Italian companies to deliver their product to big France retailer (Carrefour). The growing conditions are very similar to conventional mussel growing except for the density. Even if there is not a return in terms of price, in fact, the ultimate price of the product does not change, the opportunity of place the product on the market represents a valuable aspect.

In Emilia Romagna, the label “Cozza di Cervia” has been developed. It is an organic product, which is internationally unique because of its organoleptic flavour and texture among the mussel production. Since December 2013, the Fenice Company has certified its production with the logo of organic product that guarantees the traceability of the organic sector. In addition, consumers are not educated in the quality recognition of the mussel product. Inform consumers on the quality of mussels would help in protecting local product.

Strategies in response to credit condition:

ISMEA represents a possible creditor able to give guaranty to the firms. The cooperative MARE.A is collaborating with political institution in order to help firms to gain access to convenient form of credit such as bond, insurance. Insurance is not a recognized instrument in this sector because of the lack of reference/information in respect of level of risk and failure cases in this sector.

References

E. Turolla and G.Prioli, “Studi e proposte operative nel settore della molluschicoltura in Emilia-Romagna”. Progetto “Ecosea protection, improvement and integrated management of the sea environment and of cross border natural resources”. 2016

Malorgio,G.; De Rosa, C. ; Mulazzani L. “QUARTO RAPPORTO SULL’ECONOMIA ITTICA IN EMILIA-ROMAGNA – 2012” Osservatorio Economia Ittica, Regione Emilia Romagna

Prioli, G., et al. "Studi ed indagini rivolti al miglioramento della mitilicoltura in E." Romagna. MareSca rl (2004).

Prioli, G. (2008). La molluschicoltura in Italia. FAO Actas de Pesca y Acuicultura.

Prioli, G., „Sviluppo e prospettive dell’allevamento dei mitili. *Ecoscienza*, 2011



The work has been developed within the project SUFISA - "This project has received funds from the EU's Horizon 2020 research and innovation programme under Grant Agreement No 635577. Responsibility for the information and views set out in this report lies entirely with the authors".