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Marketing development for new Mediterranean aquaculture species: Enterprise strategies

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SUMMARY – The first section of this paper provides a theoretical common base for understanding basic marketing principles which apply to the general market environment, with particular reference to aquaculture. The second section describes the contemporary food-market sector in which the Mediterranean aquaculture largely operates, with references to the most prominent food-market and consumer trends. The paper proceeds with an identification and brief evaluation of the potential and actual advantages and disadvantages the Mediterranean aquaculture products currently possess in relation to these trends. This approach forms the base upon which a marketing plan should be structured for any "new" species. However, no reference is made to any of the "new" species which are in the process of culturing, mainly due to the wide diversity of the species themselves, their diverse (or not) marketing attributes and the variety of the market segments. Instead, a general marketing approach is being proposed, based on the integration of marketing concepts to the contemporary food-market environment in which the Mediterranean aquaculture largely operates. As the consumers segments broaden and market competition widens, the appropriate planning of an efficient and pragmatic marketing strategy, becomes imperative. Demand for aquaculture products needs to be stimulated and promptly proceeded by supply of such products. New species should ideally aim at consumer groups with identified but largely unsatisfied needs. Hence, the introduction of a new species in the market should be carefully planned, in order to increase the volume of consumers and not "cannibalise" on the market share of the existing products.

Key words: Aquaculture, marketing, Mediterranean, new species.

RESUME – "Développement du marketing pour de nouvelles espèces aquacoles méditerranéennes : Stratégies des entreprises". La première partie de cet article présente la base théorique commune à la compréhension des principes commerciaux de base qui existent dans le cadre général du marché où le domaine particulier de l'aquaculture opère. La deuxième partie décrit l'organisation actuelle du secteur du marché alimentaire dans lequel les espèces aquacoles méditerranéennes circulent suivant les indications des marchés alimentaires prédominants et les tendances des consommateurs. Cet écrit traite de l'identification, d'une rapide évaluation du potentiel, des avantages et désavantages que les espèces méditerranéennes aquacoles ont au regard de ces tendances. Cette approche donne les bases dans lesquelles les études de marché doivent appréhender "les nouvelles espèces". De toute manière, il n'existe pas de référence concernant les "nouvelles espèces" qui sont actuellement en démarrage d'élevage, principalement dû à la diversité des espèces qui sont en cours d'élevage, à leurs attributs commerciaux et à la variété des segments de marché. Cependant une approche générale commerciale est proposée, basée sur l'intégration du concept de marketing dans l'organisation actuelle du marché alimentaire dans lequel se situent en grande partie les espèces aquacoles méditerranéennes. Parallèlement, les consommateurs augmentent et la compétition commerciale est plus forte, une planification appropriée pour une bonne et pragmatique stratégie commerciale devient impérative. La demande des produits aquacoles a besoin d'être stimulée et précédée de près par l'offre de ces types de produits. Les nouvelles espèces devraient idéalement attirer les groupes de consommateurs dont on connaît les besoins et qui ne trouvent pas ces produits. Alors, l'introduction des nouvelles espèces sur le marché devra être planifiée avec soin, dans le sens d'augmenter le nombre des consommateurs et de ne pas prendre des parts de marché des espèces existantes.

Mots-clés : Aquacole, commercial, méditerranéenne, nouvelles espèces.

Introduction

Aquaculture in Europe is a sector which has grown very rapidly in the past few decades. The initial development of this industry by the northern European countries was soon transferred to the Mediterranean region, with prompt and astonishing results. The technological advancements, coupled with the favourable environmental conditions, formed the basis for the development of the industry in the region. In turn, the political and socio-economic environment acted as a catalyst giving the required boost to the sector as the EU strongly financed the industry.

The main fish species cultured in the Mediterranean region have been – and still are almost exclusively – sea bass and sea bream, with volumes significantly higher than originally anticipated. The near

exponential growth the sector has so far demonstrated in terms of production volumes and operating units, provides a firm base for optimism with regard to the culture of new species and the total output projections for the future. However, as Theodore Levitt (1975), wrote: *"Every major industry was once a growth industry. But some that are now riding a wave of growth enthusiasm are very much in the shadow of decline. Others which are thought of as seasoned-growth industries have actually stopped growing. In every case the reason growth is threatened, slowed or stopped is not because the market is saturated. It is because there has been a failure of management."*

The deficit the Mediterranean aquaculture sector has so far exhibited with regard to marketing strategies, when seen under the prism of the undergoing species diversification process, renders imperative the comprehension of the basic marketing concepts applied in aquaculture, even if only to substantiate any strategy proposals for a sustainable market entry.

Assuming no prior knowledge of marketing aspects by the reader, the purpose of this paper is to provide insights to basic marketing ideas, and combine these with the developments of the Mediterranean aquaculture industry. Within this concept, this paper aims to the help existing members of the Mediterranean aquaculture sector through an understanding of the prevailing market conditions. This approach gains value more so at this particular point of time, as the evolutionary process of the sector has reached the need for new strategic approaches, necessary for adjusting to the expanding and all-the-more competitive market environment.

This integral approach is being considered as the most appropriate vehicle towards the identification of any potential marketing strategies for new Mediterranean aquaculture species.

Aspects of marketing theory applied in aquaculture

Marketing vs production management approach

Production of high-value aquacultured species in the Mediterranean reached close to 80,000 mt in 1998, with sea bass and sea bream accounting for over 95%. Nevertheless, in spite of – or due to – its rapid growth during the past decade, the sector has come to a crossroads (Paquette, 1998).

One of the principal underlying causes that has led the industry to this point is attributed to the fact that, in contrast to modern management approaches, which tend to be more market rather than production oriented, aquaculture – though a relatively new industry with pioneering technologies – developed along the path of "production oriented" management. Aquaculturists regarded their product first and then attempted to locate and reach their customers through the traditional seafood distribution channels. Any potentially beneficial attributes the aquacultured products may have possessed were far from utilised – let alone promoted. This production oriented approach has been implicitly based on the assumption that "for as long as there is a fish-food deficit there will always be a market for more fish". Behind this notion can be usually found the influence of the production manager to the overall company strategy formulation. According to Levitt (1975), *"Consumers are unpredictable, varied, fickle, stupid, short-sighted, stubborn, and generally bothersome. This is not what the production managers openly acknowledge, but deep down in their consciousness it is what they believe. And this accounts for their concentrating on what they know and what they can control, that is production. The emphasis on production becomes particularly attractive when the product can be made at reduced unit cost. There is no more inviting way of making money than by running the plant full blast"*.

Aquaculture producers in the Mediterranean, from the early-most years of the sector's development, largely based their management strategy on production volume increases. Production indeed reached volumes far beyond the most optimistic expectations. Ironically however, the "rapid growth" phase of the Mediterranean mariculture coincided in time with the "crisis" period of the salmon industry of the northern European countries. The Mediterranean producers – which largely based their initial stages on past developments of the northern European aquaculturists – as if operating in a different sector and market environment, grossly ignored these negative signs and failed to learn from their northern counterparts.

As practice has repeatedly shown, the weaknesses of this product oriented approach only start to become evident when revenues can no longer be guaranteed just because a company is capable of producing its product. Only then producers realise that the new starting point in the management process is

to identify the needs of the potential customers (Chaston, 1983). This path is the reverse logic of the product oriented approach, and forms the basis of the marketing oriented approach to company management, which requires a mechanism to identify need. This can only be achieved through carefully designed marketing researches which can provide the necessary information for evaluating the attitude and behaviour of the potential customers.

For an aquaculture company, to be successful in the modern competitive food-market environment, such information must be carefully analysed and the results appropriately considered, in order to serve as a guide for the research and development of potential products, whether this regards new species or product types. On the other hand, this approach does not merely entail identifying customer need and leaving the production specialist to raise the selected species, or yield new product types. The direction of information between the "marketing" and the "research & development" departments needs to be bilateral:

(i) The R&D department develops a technique for the commercial production of a new species (or the processing of an existing one), which could significantly diversify the company's range of products. It is the marketing department that needs to conduct market surveys in order to locate the potential consumer market characteristics and proceed with a strategy.

(ii) The marketing department finds a valuable share within the wider market segment that has not been satisfied by the existing products. It is the R&D department, which should exploit the possibilities for economically culturing a species or developing a product that could possess the unsatisfied attributes.

An efficient marketing manager is expected to identify the initial customer need, match this against the available range of technically feasible culture choices, and help senior management to decide which species (or product form) represents the optimum candidate relative to the financial objectives of the company.

In spite of its acknowledged benefits, the marketing management approach should not be considered as the absolute panacea. It is however, not pure chance that the survivors of an economic downturn are usually those companies which are oriented towards identifying the changing demands of the marketplace and attempt to satisfy the buying patterns of their customers (Chaston, 1983). The Norwegian salmon industry is a prime example of such a case, with companies realising that one should continually monitor customer need and attempt to satisfy it to its best. It has been this very industry, which showed that even in the case when species diversification is not an option, the raw material can provide the basis of effective differentiation, in order to ensure a sustained demand for particular products, even when total market volume is declining (V. Stergiou, pers. comm.).

The marketing system and the market environment

The relationship, which exists between the producer and the food-consumer, is a continuous and dynamic one. The factors which affect this relationship are the need for a product, its availability, its quality and – last but not least – its price. Because of the delicate fragility of this relationship, it should be part of an integral set of company objectives the aim towards the launching of a product, which offers a differential advantage over competition. Understanding the competition enables the development of production and marketing programs around specific species and/or product types for the markets that will yield the greatest profits. Any such products should be carefully presented to the consumer and accompanied by a marketing schedule, which combines the variables of product, price, promotion and distribution into the most effective form. This dynamic approach is necessary in order to ensure the establishment of an on-going exchange relationship with the consumer.

The contemporary seafood industry is globally well established and highly competitive. It is of prime importance to comprehend that aquaculture products are not in competition with other seafood products only. The market in which the aquaculture sector operates is the wider food market. New customers must be sought for, not only within the seafood consumer group or the "animal-protein" consumers. The industry should consider as potential customers the entire group of food-consumers because competition is merciless in the present era of consumer awareness. Habits are altered and largely internationalised. No company with prospects for growth should oversee the potential the wider food market presents. Customer loyalty can hardly be taken for-granted with the variety of alternatives offered. It is therefore strategically important to promptly acknowledge the wider food market as the battlefield of an aquaculture company. The

developments in the Mediterranean aquaculture render the understanding of that notion as a vital one for the continuation of the sectors' prosperity.

Segmentation of the market

While the market should be considered as a wider one, consumers should not be in turn considered as homogenous. Companies, particularly the ones operating in the international environment, may find that there are substantial pay-offs to desegregating consumers into groups with similar characteristics. The objective of segmentation is to identify different groups according to their characteristics, estimate how they are likely to react to different product selling approaches directed at them, and allocate marketing effort accordingly. Within the aquaculture industry, and particularly so within its Mediterranean component, the market has been assumed to be composed of homogenous needs. Therefore, a very limited range of products has been introduced (with hardly any differential attributes amongst them), which appeal to the largest number of buyers. This approach, often referred to as "mass" or "undifferentiated" marketing, is still widely used by the greatest majority of the mariculture producers in the Mediterranean.

There are many characteristics on the basis of which the market can be segmented, such as income, social class, geographical location, age, gender, family size, educational background, etc. Therefore from a strategy viewpoint, it is often misleading to think in terms of a product that is sold to a homogenous group of consumers. In contrast to the Mediterranean mariculturers the northern European aquaculturists seem to have long acknowledged the benefits of market segmentation. The salmon industry once more presents an ideal example case with proven results, considering its profitability long after the early 1990's crisis (V. Stergiou, pers. comm.).

Consumer behaviour

It seems that despite the acknowledged importance the consumer behaviour exerts in the development of marketing strategies, no specific theory exists which could provide the marketer with a total understanding of the relationship between consumer purchase behaviour and the influence on the marketing mix (product, price, promotion, place). Many marketers have developed a generalised model of the purchase activity, in attempt to understand the process involved. One such version (Chaston, 1983), assumes the following five components: (i) identification of need; (ii) acquisition of information on potential products; (iii) evaluation of alternative propositions; (iv) the purchase decision; and (v) post purchase evaluation of the product.

Given the existing competition, and in many cases the oversupply of aquaculture products, the requirement to understand consumer behaviour and its underlying relation to the contemporary socio-economic issues which largely affect it, becomes an aspect of weighed value. It is the actual separation of the factors which determine the purchase decision that will be used to evaluate the optimal marketing effort, necessary to ensure the consumer's positive approach towards the company's range of products.

Product-type differentiation

For some products, such as fish, it is virtually impossible to differentiate among consumers on the basis of product characteristics, simply because the product does not lend itself to this approach. However, it may be possible to change the characteristics of a product in ways that will have particular appeal to different segments of the wider consumer population. The potential product can be thought of as a bundle of characteristics, which appeal to different consumers in different ways. Hence, product differentiation should be the next step following a market segmentation that determines which set of product attributes should be incorporated in the version of the product targeted at each market segment.

It should be noted that, of the most important determinants of a product's success are likely to be the price of the product compared to similar products, and the degree to which consumers perceive the product as a different offering.

As regards "price", the companies operating in the aquaculture sector, especially those doing business in the international environment, have a distinct and marked advantage. That is the ability to adjust and vary

prices depending on the market targeted. Considering that the main market differentiation is based on geographical (international) segmentation, prices can be easily adjusted according to the conditions of each particular country. That way the total profit of the sum of profits obtained from different pricing at different countries becomes higher than the total profits of a uniform price for all countries. Company revenues are optimised as there are virtually no differences in the cost of the products sold at the different geographic segments. However, it is important to acknowledge that an aquaculture product, as really any product, with low perceived differentiation and high-perceived relative price is quite likely to fail in establishing a sustainable market. On the other hand, a product with high-perceived differentiation and low perceived relative price is much more likely to succeed.

If market segmentation and consequent identification of unsatisfied consumer-needs can be efficiently combined with product differentiation, the company revenues have great chances of being increased and the company establishing a competitive advantage into highly valuable un-exploited market segments. Product differentiation can therefore serve as an adaptive strategy as it is often considered easier to be accomplished rather than trying to alter consumer preferences through marketing devices, such as advertising and promotional campaigns (Paquotte, 1998).

The great success of farmed salmonids in Europe that has been largely based not so much in the two species themselves but on the wide range of the product-forms these species can supply, provides evidence on the notion of product differentiation for enlarging markets for aquaculture.

There are inevitably limits to the extent of market segmentation and product differentiation in a sector as new as commercial aquaculture. These limits are inherently related to the cost incurred for adequately segmenting the market, the costs associated with the production of a differentiated product (species or form) as well as the necessary promotional and advertising costs. Against the sum of these costs should be projected the expected revenues from the implementation of the actions proposed. Such estimates also should accommodate for modifications, as a response to potential future changes within the sectors' environment (when possible). Only if the net outcome of this integral approach is positive a plan should proceed to its implementation.

Mediterranean aquaculture, market trends and marketing developments

The Mediterranean aquaculture, after a period of impressive growth has finally come to a critical point, as production has reached volumes far beyond the wildest expectations. The supply-driven force, which prevailed during the development phase of the sector, coupled by the almost absolute lack of market surveys and marketing strategies, severely disrupted the market supply/demand equilibrium. As a result, the aquaculture products, though initially unknown and later perceived as a sort of delicacy, ended up in the market as a sort of commodity (G. Charalambakis, pers. comm.).

As one of the leading producers in the area dramatically stated: *"We are experiencing the same phenomenon happening for bass and bream as it did for salmon, and it would be impossible to avoid the repercussions that the salmon industry faced"* (Stephanis, 1996).

Indeed prices of the two predominant species rapidly fell. Sea bass price on the Italian market, which still is the main market for sea bass and sea bream, was in 1996 three times less than in 1988 (Paquotte, 1998), and although the economies of scale lowered production costs, profit margins have been strongly compressed and many companies forced to sell their crop at prices below cost (Datsopoulos, 1996).

Following these developments many serious changes took place. The most important has been the concentration of the production around large companies or group of companies and co-operatives. Hence, the emerging picture is one of oligopoly, with few companies largely setting the pace of development, and capitalising the markets. It has been mainly within such companies, as well as research institutes, that effort has been directed towards the effective culturing of new species at a commercial scale.

The successful culture of new species does by no means secure expansion of the market and increase of company revenues, if not accompanied by an integral marketing plan. Experiences up to present should not be overlooked in the notion that they have not been particularly pleasant. For any new product to have increased chances of successfully invading (or simply entering) the food market, whether this regards a new species or a product type, a series of reconnaissance steps should be first taken.

As discussed quite thoroughly in the previous section, it is important to understand and appropriately assess a number of factors that shape the market environment at which the product are directed.

Contemporary market trends and consumer perceptions towards fish consumption

Europe, especially EU countries, forms the principal market for Mediterranean aquaculture products, within which a slow but steady increase in *per caput* consumption of fish has been observed (Josupeit, 1996). However, since food consumption in general, is strongly related to national cultures which in turn affect consumer behaviour, great differences can be found between and within the EU constituent countries (Young, 1996). In brief, the differentiating factors between countries regarding the fish-food market, are the level of consumption *per capita*, the local favourite species, the geographical origin of imports, the importance of the away from home consumption and the market share of the supermarkets in the distribution (Paquotte and Guillard, 1996). Within this context, for the market of the Mediterranean aquaculture products, two broad market segments can be observed: the northern and the southern European. The former market is relatively small with regard to the demand partly because of the limited knowledge of the product by the average consumer (Stephanis, 1996), and partly due to the aversion of such consumers towards "whole" fish (Paquotte and Guillard, 1996). On the other hand consumers within the latter geographical segment seem to have a relative preference towards whole fresh fish consumption, a trend which nevertheless seems to be in decline (Paquotte and Guillard, 1996).

Without overlooking the evident importance of the size of the particular markets (and the relative price fluctuations), it is arguably more important to have a concise picture of the marketing forces which shape the current and future demand patterns (Young, 1996). Under this prism, more emphasis should be given on the identification of the contemporary market trends and the ones directing consumer behaviour.

During the last decade or so, the wider market environment, in which the Mediterranean aquaculture operates, has been undergoing a process of in-depth transformation (Paquotte, 1998). A number of European-wide food-market issues could be attributed to this transformation process. The principal ones, which directly or indirectly are concerned with the consumption of the Mediterranean products of aquaculture origin, are briefly presented below. Moreover, a number of general consumer concerns and perceptions that are shared amongst the diverse European market are also presented.

Super market increase in market share

Within the last 5-8 years the invasion and continuous expansion of the hyper/supermarkets and multiples to the fresh fish trade is being observed. The market share of such stores is increasing in the European countries, while the traditional channel (specialist retailers, fishmongers, and wholesalers) are losing their share. Indeed, fish, particularly in its fresh/chilled form, has been one of the last major product sectors to be incorporated within this evolutionary environment (Young, 1996). The incorporation of traditional specialist outlets within the stores has proved to have positive effects on fresh fish sales – in countries or regions, such as Germany, The Netherlands, inland Italy and France – where fresh fish consumption has been traditionally low (Paquotte, 1998).

Increasing market share of pre-packed fish

The demand for this type of presentation for fish has been increasing, particularly so in northern European countries such as The Netherlands and Belgium. According to Paquotte (1998), it is considered as the most promising way to expand the market for fish and to reach new generations of customers.

Less time available for food preparation

The rapidly increasing number of working women, the extended working hours and in general the accelerated pace of the modern lifestyle, have reduced the time available for the preparation of meals. Ready-to-cook meals and frozen food have increased their share in the market. Similarly, the increased demand for pre-packed fish and the importance of the supermarkets clearly support this trend. Moreover, the out-of-home consumption has been rising (Mariojouis and Paquotte, 1998), thus indicating the convenience sought, due to the lack of time to prepare meals.

Demand for added-value fish-food products

Within this category fall a variety of products forms such as filleted, gutted, boneless, headed fish, etc., products which have increased their value namely through their convenience added. This is a particularly important issue with regard to fish-products, considering that the increase in consumption of fresh fish in most European countries is due to the steaks and fillets rather than to whole fish (Paquotte, 1998).

Growing importance of the catering sector

Catering is becoming an all-the-more influential food channel. Despite the great diversity, amongst the European nations on the patterns of consumption of fish within this market channel, overall the catering sector has been steadily increasing its market share, whether this involves out-of-home consumption or home-delivery services.

Consumer's health concerns

Progressively, consumers tend to move towards new lighter and healthier foods, a trend that seems to take place at a fast rate within the EU countries, particularly as national economies improve. Fish has long been perceived as food that satisfies the needs for healthy products thanks to its high dietary attributes. The high protein content, along with the high content in Poly-Unsaturated Fatty Acids (PUFA's) – perceived as guardians against heart diseases – have been increasingly recognised and desirable by the food consumers.

Consumer's environmental concerns

Within the last couple of decades there has been an increasing trend towards the protection of the environment and the promotion of environmentally friendly products. Consumers want to know whether the production of an item causes damage to the environment and many times require some sort of labelling guarantee that the product is in compliance with environmental (and social) requirements. The demand for eco-labelled products varies strongly by region, the strongest demand being concentrated in NW Europe, Scandinavia and North America. To date, "dolphin-friendly" tuna is the only product with this kind of labelling. The Marine Stewardship Council (MSC) is a more recent initiative within the fishing industry, while a small number of signs/labels have also been improvised by consumers or associations for use in aquaculture, especially in the northern countries (Wray, 1999).

Consumer's need for reassurance

This is a trend that is being recently observed in the developed countries, as consumers are faced with a continuously expanding range of food products and cannot be guaranteed of the quality. The recent Bovine Spongiform Encephalopathy (BSE) crisis, caused great concerns amongst consumers which are progressively becoming more responsible and demanding of information related to the food production processes (Mariojouis and Paquotte, 1998).

Advantages and disadvantages of the Mediterranean aquaculture products

Following the identification of the prevailing market and consumer trends, of the main market the Mediterranean aquaculture products are directed to, one should consider the relevant actual and potential advantages the sector possesses, in order to enhance them and adequately promoted them. Similarly, any relevant actual and potential disadvantageous issues should also be clearly defined, in order for efforts to be directed towards the overcoming of these, or (more difficult) altering the consumers' perception.

Fish has long been regarded as an important food item towards a healthy diet. Whether fresh, frozen or under any other form of presentation, demand for fish and fish products has been generally increasing. To overcome competition from traditional captures fisheries, aquaculture products possess a marked advantage. That is the control and consistency of supplies. Large retailers, such as the supermarkets and the multiples have acknowledged this advantage. Since the "production" of fish can be to a great degree controlled, the supermarket requirements of supply regularity, homogeneity of product characteristics, and product quality, can be adequately met, and – in most cases – the species which better fit the market needs

with regard to weight, appearance, type, can be chosen in such a way as to satisfy customer needs. Another beneficiary aspect of this retail channel, is the fact that this particular channel increases the chances of selling the product, as the "roof" of a super market brand provides some sort of quality guarantee (Paquette, 1998), which these product largely lack.

Using the advantage of constant and regular supplies, Mediterranean aquaculture products have the potential of significantly increasing their share in the catering sector, particularly in the out-of-home consumption segment (hotels, restaurants, etc.). However, this sector, in order to be fully exploited would require the added-value differentiation of the products. Fresh fish, and especially the whole (round) fish is definitely not the most convenient food item and caterers would strongly welcome the introduction of more "friendly" forms which would require quicker preparation and could be "mass" prepared. The expanding notion that fish presents a healthy and nutritious food item can certainly be capitalised by this sector, particularly if one considers the convenience sought by the consumers and the less time available for food preparation, let alone the prevailing lifestyle which dictates the consumption of high-value food out of the home.

Aquaculture products have another distinct potential advantage. This is the quality control that can be applied and certified for such products, in contrast to their "wild" counterparts. It is important that certain handling procedures be modified in order to take full advantage of the opportunities to develop a system of adequate and prompt supplies, which can ensure and certify freshness.

Despite some gains – especially at the expense of red meat – it must also be remembered that this more favourable disposition to the fish has not eliminated many of the traditional negative perceptions harboured by the potential and actual consumer (Young, 1996). Of these, important seems to be the lack of self-confidence, from the side of the consumers, in determining quality characteristics (freshness, etc.) of the displayed products, as well as the notion that the preparation and cooking of fish requires particular skills. Under this prism, Mediterranean aquaculture has a distinct disadvantage, since producers have focused almost exclusively on the fresh seafood market. In Europe, the bulk of the production is sold as chilled whole fish (very rarely pre-packed), a basic form responding to the traditional way of presenting these two species in southern countries (Monfort, 1998). On the other hand, as market needs expansion, it is important to consider that consumers from the non-Mediterranean European countries are much less tolerant of the whole fish concept. Apart from the dislike of many consumers being presented with heads, eyes and other anatomical parts of the animal, the presence of bones in the flesh presents a further disincentive for many to consume, particularly children (Young, 1996).

Another issue in which the Mediterranean aquaculture suffers a major disadvantage is the low frequency of pre-packed fish available in the stores. If one takes into account the consumer's lack of self-confidence for the identification of product attributes and the need for reassurance, the market loss becomes quite clear when compared to the alternative products present.

From the above, it becomes evident that while a number of attributes can be advantageously promoted, there are certain issues that require attention towards altering or minimising them. Probably the most important one seems to be product differentiation, particularly towards convenience added-value types. At the most elementary level, differentiation may constitute only of comparatively minor physical changes such as headless, gutted, filleted, skinless or boneless products (Young, 1996). So far, within the Mediterranean sector very little is being so far processed. In order to match the current market and consumer trends, some producers are trying to develop more acceptable products such as gutted or scaled fish. But so far, production into fillets has been marginal due to the rather poor yield (40%) that can be obtained from the two predominant species (Monfort, 1998).

Marketing actions proposed for the Mediterranean aquacultured species

Having identified some of the key forces which in general determine the market and consumption of fish food, and food in general, it remains to consider a marketing strategy through which the Mediterranean aquaculture industry could respond to these trends.

So far, the immediate response by the Mediterranean producers has been to increase the range of the species cultured. Significant effort has been directed towards the culturing of a wide variety of species. Many of these so-called "new" species have similar culturing requirements to the predominantly cultures

ones (i.e. lower cost of diversification), but also have similar marketing attributes, thus of a distinct marketing handicap. On the other side are the species with quite different culturing techniques which have been more recently developed. The latter, though more costly at the initial stages of culturing, provide a much higher degree of product differentiation. In general, the "new" species can be divided into the Sparid and non-Sparid ones, or similarly to the lower growth, better priced and the high growth, medium priced ones. Table 1, below, lists the main species for which efforts are being directed for their commercial cultivation. It should be noted that while some of these species are presently cultured close to commercial scale, the majority of them are in the experimental or pilot stage.

Table 1. "New" Mediterranean aquaculture species (adjusted from: Barbato and Corbari, 1995; Kentouri *et al.*, 1995)

Non-Sparids	Sparids
<i>Thunnus tynnus</i>	<i>Diplodus sargus, D. vulgaris, D. puntazzo</i>
<i>Coryphaena hippurus</i>	<i>Pagellus erythrinus</i>
<i>Polyprion americanum</i>	<i>Litognathus mormyrus</i>
<i>Seriola dumerilli</i>	<i>Dentex dentex</i>
<i>Umbrina cirrosa</i>	<i>Pagrus major, P. pagrus</i>
<i>Sciaena umbra</i>	
<i>Paralichthys olivaceus</i>	
<i>Epinephelus marginatus</i>	
<i>Solea vulgaris, S. solea</i>	

Strategic points for marketing development

Acknowledging the fact that species diversification alone will not ensure market expansion, a number of strategically important marketing points will be herein presented. It should be stressed that no specific reference to any particular "new" species will be made, and a rather more generalistic approach will be adopted. The reasons for this approach are briefly stated below:

- (i) The wide range of the new species cultured (see Table 1), both with regard to their culture requirements as well as their marketing attributes.
- (ii) The lack of information regarding estimated production volumes, cost of production, etc.
- (iii) The lack of information regarding the potential for supporting alternative product forms.
- (iv) The great market and consumer attitude differences, amongst the geographical segments.
- (v) The lack of reliable market information (market segments, etc.).
- (vi) Last – but certainly not least – is the lack of any integrated marketing strategy regarding the Mediterranean aquaculture sector in general, and/or its specific products for the last 10-15 years.

Hitherto, a general marketing strategy must be structured in such a way as to gradually inform the consumers of the potential, actual and perceived advantageous attributes of the sector and/or the products. An integral strategy plan should be initially aimed towards the entire food-consumer market segment, and make use of the advantageous attributes that correspond to the general contemporary market trends. It is important to "ignite" the interest of the un-aware consumers, rather than inform the existing ones, which should be targeted as products (species and/or types) are diversified and consumers have established a particular image for these products.

Image creation and message selection

The process of defining the image of the product is of vital importance, as it is the one the consumer will instinctively relate to, every-time he/she is confronted with the product. This process should incorporate any actual and perceived attributes, in order for these to be appropriately promoted. In practice, it is not the

product itself but a story behind it, surrounded by a lifestyle that urges the consumer to buy it and become part of that trend. One should keep in mind that in many cases the image of the product reflects the social and psychological needs of the consumers rather than the actual ones. Therefore, by trying to define any such social and psychological expectations for a product, one is moving towards attracting potential customers.

Within the wider European aquaculture sector this concept has been largely exploited, alas by the salmon and trout industry almost exclusively. Prime example of such a case is the Norwegian salmon. The latter is promoted in close relationship with the country's natural environment and natural resources. Pictures of clear waters surrounded by snowy mountains inform the consumer of the "clean" natural conditions within which salmon is cultured. Moreover, pictures of government officials (in uniform) inspecting the products or the installations provide a sense of quality guarantee. Images showing healthy-looking people in natural or urban exclusive settings tasting salmon dishes, promote a certain type of lifestyle that consumers can either relate to or wish to be part of. The overall image of the product promoted is one of high quality and environmentally-friendly practices and one of certified quality. Moreover, the product is promoted as a "flag" national product.

With reference to the Mediterranean aquaculture, the image of any product must be closely related to an image created for the sector. It is fortunate that a number of attractive attributes the Mediterranean sea possesses, such as clear waters, diverse marine life, etc., are widely acknowledged and highly regarded by the greatest majority of the consumers in the developed world.

Around the issue of the Mediterranean natural resources could be created an attractive image of a clean, "warm", relaxing, vacation-inspiring image. Moreover, the much-appreciated Mediterranean lifestyle could be combined with the highly regarded Mediterranean diet, of which fresh fish is a major constituent.

Complementary to the image is the choice of the message. An attractive and "catching" image when accompanied by the right message enhances its communication to the public.

The Norwegians at one point used the message "They can't take it away from us". The message referred to the highly perceived quality of the national natural resources and consequently to the culturing conditions for salmon, indicating its uniqueness and claiming exclusiveness. (V. Stergiou, pers. comm.).

For the Mediterranean aquaculture products there is a great variety of messages that could be efficiently used. Although the choice would differ depending on the consumer segment targeted, generalistic messages could be employed as vehicles towards the promotion of the sector and the products in general. The constancy and promptness of supplies, the freshness and the high quality of the product, the sustainable practices, the high dietary value, the Mediterranean lifestyle, and many other attributes provide a wide range of alternatives for the selection of the right message.

Promotional actions for the sector and its products

Around the image and messages chosen must be developed a network of promotional actions that will ensure the optimum dissemination of information, the enhancement of awareness and adequate consumer knowledge for the sector and its products. It is important for producers to realise that the target is the consumer and not the fishmongers or the supermarkets which sell it to the consumer (Dakos, 1996). It becomes imperative therefore for the consumer to be informed directly by the producer, hence the promotional actions should therefore include: (i) television and radio commercials; (ii) press brochures and street posters; (iii) leaflets providing direct or indirect information on the product (and sector); and (iv) promotion in the main demand areas, i.e. product testing, product presentation, cooking presentations.

At the present stage it is essential that the appropriate information be disseminated through such promotional actions. The information must be carefully structured as to gradually inform the largely unaware consumer. Mariojouis (1996), states firmly on the matter: "*It is time for the aquaculture products to come out, to dissipate the doubts about their origin, to use their own characteristics as marketing arguments, to find their right position inside the market*". Therefore, a campaign could be designed as to emphasise the advantageous points at structured order and should include issues such as the following: (i) sectoral information (expansion pattern, existing farms, contribution to national economy, etc.); (ii) natural setting of farms, pure products; (iii) freshness and constant supplies; (iv) high technology (fish pathology, nutrition,

etc.); (v) controlled quality; (vi) competitive prices; (vii) fish-food attributes, healthy Mediterranean diet; (viii) existing products and attributes; and (ix) new products and attributes.

General issues of concern for the expansion of the market

The general marketing approach described, is related to the current marketing requirements for the Mediterranean aquaculture. There are however, a number of issues of great concern for the producers who wish to enlarge their market share and increase their company revenues. Though some of these issues would require additional production costs, the customers seem to be ready to pay an extra cost for extra quality, if appropriate measures are taken for increasing the awareness of this extra quality (Mariojouis, 1996).

In the long-run, it is the companies that will first acknowledge these issues and move towards meeting them that will gain a valuable competitive advantage.

Product differentiation, species diversification

Product form differentiation for the existing species, at an elementary level, could consist of comparatively minor physical changes such as headless, gutted, filleted, skinless or boneless products. On the other extreme, it may go as far as the full preparation of dishes in which the fish is served with a number of other ingredients (Young, 1996). The market is ready for expansion via carefully planned differentiated product forms.

As regards the introduction of new species, four factors – apart from the culturing requirements – must be at an early stage assessed: (i) the market demand and consumer's perception towards that species; (ii) the supply of that species from the traditional fishery; (iii) the price fetched in the national and international market; and (iv) the potential for this species to yield enough raw material for economically viable product form differentiation.

Quality certification

Making consumers aware of quality is a concern of increasing importance (Monfort, 1998). During the last couple of years, within the seafood industry, national and/or international health regulations are being seen as a positive marketing tool. Both consumers and retailers become more and more demanding, thus applying strong pressure to the producers for higher levels of quality, and more importantly for certified quality. Although there is a variety of initiatives and paradigms at national and international level for quality certified aquacultured products, these are almost exclusively only national certificates, recognised by consumers at the particular countries (Monfort, 1998). These certificates, mainly tag-labels, are mostly concerned with salmon and trout. With regard to the Mediterranean species quality branding is almost non-existing, thus creating a serious competitive disadvantage, particularly when targeting consumers of non-Mediterranean countries.

As the number of farms in the Mediterranean regions increases and production volumes rise, it becomes more than just necessary for the proper marketing of any species to be clearly labelled, despite the cost incurred. It is however important, the meaning of the label and the process of certification to be thoroughly communicated to the consumers.

Eco-labelling

Eco-labelling is being examined separately, due to the different consumer concerns it is aimed at. It is a guide for consumers to choose products that cause less damage to the environment. It answers back to the consumer concern for environmentally-friendly practices. Within the seafood industry labelling, in general, is extremely limited and its commercial relevance has not yet been accepted by European producers (Wray, 1999). Nevertheless, aquaculture has seen several recent initiatives, such as the Global Aquaculture Alliance, which is seeking to develop codes of practice for sustainable development of the sector. It is also expected that labelling schemes initiated by bodies such as the MSC will influence seafood marketing in key regions such as Europe and North America.

This issue should be strongly acknowledged as any one company or product that adopts an eco-labelling scheme will most certainly gain an advantage and attract clients from a competitor.

Pre-packing

There are a number of producers who pre-pack their product, namely fresh fish. This sort of differentiation provides marked advantages against the ones that are plainly displayed on ice. The packing, apart from its convenience for purchasing, as it does not entail "confrontation" with the fish-monger or in-store specialist but can be directly selected, has the advantage of providing essential information, rendering the product directly competitive to its alternative ones of the same form (pre-packed meat, poultry, etc.). The package may include a variety of information, from the country of origin and company name, to sell-by date and cooking instructions. However, apart from the increased cost, special care is needed during the handling, transport and display for this type of presentation in order to ensure its freshness and attractiveness.

Product ID

There are certain rules and regulations of national and international origin that require producers to provide their products with adequate information. Such information includes the company name, the place of origin, the cropping (fishing) date, the species name, the size of the fish, etc. Within this context, Mediterranean producers suffer great losses from the wholesalers and/or final retailers. Though producers in most cases do provide adequate labelling of the boxes containing the fish, more than often, the fish once it leaves the producer or primary wholesaler and reaches the secondary wholesaler or final retailer loses any identification it may have possessed (G. Charalambakis, pers. comm.). This way, the consumer is, in most cases, totally unaware of the origin, the company, the fishing date, and proper sell-by date, as well as other aspects (such as the name/type of fish in some cases) that might have helped in the purchasing procedure. There is hardly any differentiation by producer at the bench of the retailer and as a result any potentially advantageous attributes one company may have incorporated in its product is either lost or shared with the others.

Specially reserved places, with signs providing adequate information about the product could provide an answer to this problem. It is however, the producers themselves who should insist on such a display, in order for their products to be appropriately identified. This point, on the other hand, would not be raised if the products were pre-packed or tag-labelled.

Company image and identity

Once a marketing strategy, has successfully passed through the previous stages would need to accommodate for the creation of customer loyalty. It is important once the product has been established in the minds of the customers to continue its promotion through the image of the company. The consumer pays great attention to the "halo" that surrounds a brand name. In essence, that projects to the company itself as in many cases concepts such as the vision, the culture and the overall image of the company are being communicated through the product. It would be a fateful mistake for a company to try and exhaust its promotional activities through the image of the product, without promoting the image of the company as a whole. That in the long-run would have a negative effects considering that a potential buyer to become a regular customer needs to relate to the whole corporate image of the company and not just a particular product whose life cycle may come and go.

The Mediterranean aquaculture as a whole has evidently shown that has a vision. It is up to the many companies within the sector, large and small, to show how they fit in the whole picture, how they can be differentiated from the others and what has been the driving and motivating power behind it. Direct and/or indirect dissemination of such information enhances the consumer awareness towards a company and its products, thus providing a competitive advantage when it comes to new products.

Awareness and education

Consumer awareness is another point attention should be given at, if the market share of aquaculture products is to be expanded. The existing negative perceptions could be largely altered if appropriate actions are taken. The realisation of a plan which would aim towards the education of the consumers on issues such as species identification, species differential attributes, identification of freshness, preparing and cooking instructions and other, would most certainly lay the foundations for broadening the consumer base.

Though it has been repeatedly stated that the final consumer should be the main target of the producer, an alternative – or rather complementary – approach requires the producer to move closer to retailers and jointly move towards a marketing strategy that would increase revenues for of both parties (Stephanis, 1996). Additionally, it has been also considered that producers should concentrate on production issues only and cooperate with each other towards contracting external marketing specialists for the promotion of the sector and its products (Stephanis, 1996). However, the latter issue apart from entailing greater risks, as it depends on others, practice has shown that it is quite a utopic one. Producers are being trapped into a "mortal combat" for the ultimate dominance of the sector. As we approach the end of this merciless competition, a small number of conglomerates and a large number of small family-type enterprises will emerge. It is expected that as we move closer to that point, and large companies become horizontally and vertically expanded, the issue of high-calibre marketing will be given the appropriate consideration towards the new market penetration and expansion.

Conclusions

As competition within the seafood industry – and food industry in general – increases with the globalisation of the markets and the internationalisation of consumer trends, the aquaculture sector must act promptly and efficiently in order to penetrate into new markets and further exploit the existing ones.

It is a promising fact that most Mediterranean producers have already acknowledged that the lack of proper marketing strategies in the past has placed the industry in a difficult situation. Efforts to overcome the negative effects of this situation have been mainly directed towards the diversification of the species cultured. The result so far has been only the skimming of the market with small volumes of such species, as they target the traditional fresh whole-fish market, which commands higher prices. Inevitably however, the prices should – once again – be expected to fall as production steadily increases. Moreover, as the number of new species introduced expands, and given the relatively narrow range eaten by most consumers, it is highly questionable whether this strategy will establish sustained market shares. The importance of the latter is further enhanced considering that the majority of the new species cultured so far possess very little differentiated marketing attributes, in comparison to the common ones cultured from the early stages of the industry.

Practice has shown that an efficient and potentially successful strategy for the expansion of the market share should take into account the factors that influence the contemporary market and consumer trends. The products have to gain value through the promotion of the appropriate image, the certification of quality and the convenience added. The northern European aquaculturists, despite their significant limitations imposed by the lack of alternative species for culturing, have managed to emerge out of the early 1990's crisis quite strong, through the wide diversification of the product-forms and the intrusion to new markets.

Under this prism, the Mediterranean aquaculture sectors possesses the significant advantage of the potentially much larger range of species for culturing, quite many of which can yield highly differentiated product forms. When it comes to the elaboration of a marketing strategy for any such species and/or product forms, it is imperative to assess the evolutionary potential of the markets' "width" and "breadth". Demand for aquaculture products needs to be stimulated and promptly proceeded by adequate supplies of such products. The latter should be continuously backed by wide range of promotional activities based on market and consumer information.

It becomes evident that species diversification alone, is only a temporary answer towards market expansion. New species (and product forms), should ideally aim at consumer groups with identified but largely unsatisfied needs. The introduction of a new product in the market should be carefully planned, in order to increase the volume of consumers and not "cannibalise" on the market share of the existing products. This can be achieved through a dynamic and continuous evaluation of the market environment and its segments, which will enable a company to react to market changes and to obtain (or maintain) a competitive advantage in the industry.

The creative entrepreneur who will be brave enough to acknowledge these issues and at the same time bold enough to act promptly and efficiently, will have made a giant step forward for the company, its revenues and the for the sector of the Mediterranean aquaculture in general.

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