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### ORGANISATION OF THE PRODUCTION IN AQUACULTURE: A COMPARISON BETWEEN EASTERN EUROPE AND WESTERN EUROPE

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**Abstract** : For Eastern European countries which have limited coastlines or have not access any more to foreign fishing zones in Africa or Asia, aquaculture is a major issue in aquatic products supply. Following the political and economic transformations which have occurred since 1989, the fish farming production has been decreasing in most of countries of the former Eastern bloc. Meanwhile, many enterprises have been restructured and new forms of organisation production have appeared. The transition from State-owned status to private entrepreneurship is not realised at the same pace in all the countries, but is a general trend. Not only the producers have to adjust to this new economic context, but they have to shift from production-driven to market-driven behaviour. In a context of international competition and short term economic objectives, organisation of the production is a key factor in the aim of sustainable management of aquaculture. Indeed, land and water are natural resources which have to be used with the help of common rules. Moreover, producers organisations may be very helpful to improve the marketing of the products and to make enterprises more competitive, as well on domestic markets as on foreign markets. A survey of the recent evolution and present state of agricultural and aquacultural production structures in Eastern Europe and Western Europe shows the diversity of the structures and the strong influence of the socio-economic history. As a comparison, some examples of organisation of the production in Western European aquaculture are presented.

## **What does "organisation of the production" stand for in aquaculture ?**

### **The economic environment of the aquaculture enterprises**

When studying the economics of an aquaculture enterprise, three features turn out particularly relevant : the dependence on the natural environment, the importance of the legal and institutional aspects and the place of aquaculture products in the highly competitive market for sea-products. In a first approach, it may be considered that aquaculture enterprises are in competition for access to:

- the natural resource (water and nutrients),
- the market,
- the government or international aids and subsidies.

An environmental policy is necessary to deal with the management of natural resources which are in shared access among farming units or with other industries. Indeed, the exploited biological productivity is a resource in common property, as well as water quality, ecosystem preservation, landscape attractivity or biodiversity. As long as these resources are plentiful compared to user demand, no rule to limit access is needed and they may remain in free-access. But when the pressure over the resource increases with the multiplication of the enterprises, regulation of access is requested.

As for the access to market, the situation of competition exists not only between aquaculture enterprises but also between fisheries and aquaculture and even among all the agricultural activities producing animal proteins. Indeed, from the consumer point of view, substitutions between meat and fish are possible. Aquaculture products will be compared with other products in terms of price and quality and have to be competitive. Moreover, the controversial issue of the image of farmed products has not to be forgotten and requires the definition of common quality standards.

These considerations show that beyond the competition between aquaculture enterprises, a large space for cooperation exists in order to share limited natural resources, limited markets and limited financial supports.

### **Objectives of an organisation of the production**

To avoid or, at least, to limit the negative consequences of an excessive pressure on the natural resources due to individual behaviours and to ensure sustainable development, ways to coordinate individual choices at the collective level have to be found. This is the case for most of the resources associated to aquatic ecosystems. Responsible participatory management, where users groups such as aquaculturists would be involved with the backing of the authorities, is usually considered as the best approach. Practically, it turns out that preference often is given to administered rules because of the complexity of the issues, of the low economic weight of the aquaculture sector and of the poor political connections (Bailly and Paquotte, 1996). For these two last reasons, producers organisations may help when negotiating with the public authorities, not only for access to the resource, but also to implement convenient support policies.

Organisation of the production may be a way to get economies of scope, which have been defined by Shaw in 1989 as economies of scale resulting from the association of several small

enterprises, for instance for bulk buying of feed, juveniles or other inputs. In the same way of thinking, any form of producers' organisation may facilitate the concentration of supply and the adaptation of the volume of products to fluctuating market requirements. In order to improve the conditions for sale of its members' products, an organisation of the production can include measures designed to improve product quality. Norms, quality standards and labels need a collective effort to be implemented among small scale enterprises because they are costly to define, to control and to advertise. Given the tough competition on the sea-food market, quality control and wide marketing communication are required from aquaculture producers. A very good example of marketing success-story due to good organisation of the producers is the generic advertising program for catfish in the United States. Implemented in 1987, it has been financed by farmers' voluntary contributions on feed and has resulted in improving the consumers' perceptions of catfish and in increasing purchase frequencies (Kinnucan, 1991).

In order to achieve these aims, aquaculture production may be organised under numerous different forms, from the simple exchange of information to the total cooperative status, with more or less formal links between members and more or less recognition from the public authorities. The comparison of organisation forms of the production in Eastern Europe and in Western Europe may illustrate the diversity of these structures.

## **Evolution of the organisation of the production in aquaculture in Eastern Europe**

### **The general context of agriculture**

The present situation of aquaculture in Eastern Europe has to be considered in the wider scope of the recent evolution of agriculture. The organisation of any agricultural activity in this area is tightly linked to the history of social relations and to the present process of decollectivisation (Maurel, 1994). Given the diversity of socio-cultural contexts in Eastern Europe, the post-collectivist situation will not be the same in every country. The collectivisation phase during the fifties has enforced the norm of the big industrial firm. The organisation of the agricultural production used to be characterised by concentrated land property, sectorial specialisation and vertical integration. Over-adapted to an administered economy, these farms often turn out unable to cope with free-market economy and uncertainty. The transition to a traditional peasantry organisation is all the more difficult as small scale farms were sometimes not well established yet before the collectivisation phase. New farmers suffer a lack of capital, adapted equipment and managerial know-how. Moreover, the up-stream sector (supply of inputs) and the down-stream sector (processing, marketing) are sometimes still managed by the State and monopolistic. For all these reasons, the transition process in agriculture is diverse and the effects of the collectivisation are not totally reversible.

A survey of the situation of agriculture before 1989 in Eastern Europe shows some disparities. Cooperatives and State farms used to be the rule in the former USSR, as well as in Albania and Czechoslovakia. A small private sector was still present in Bulgaria, Hungary and Romania, accounting for 10 to 15% of the agricultural surface. On the contrary, private farms used to prevail in Poland and Slovenia (Table 1).

Since 1989, the decollectivisation process has not been run at the same pace in the different countries. In a first group made up of Belarus, Moldova, Russia and Ukraine, almost no privatisation of land has been achieved yet. Very few new privatisations have been realised in Poland too. Privatisation of land is in process in Estonia, Latvia, Lithuania and Bulgaria, but is slowed down because of conflicts between former owners and cooperative members. On the contrary, land has been almost fully privatised in Albania, Romania, Slovenia, Hungary, Czech Republic and to a smaller extent in Slovakia. In that last group of countries, the process of decollectivisation has resulted in a highly parcelled landed property (Table 1).

Although land is divided in small parcels, most of the private farms are still large enterprises in Czech Republic and in Slovakia. These farms rent the land from the numerous private owners. In Bulgaria, Estonia, Hungary, Lithuania and Poland, small scale farms coexist with big private enterprises which rent the land from the private sector or from the State. Very small farms are prevailing now in Albania and Latvia. Private farms are just a little bigger in Romania and Slovenia and new kinds of unformal and formal associations are developing in these last two countries. In Belarus, Moldova, Russia and Ukraine, collective farms are still running but the production of the private gardens is more and more important (Table 1).

### **The specific case of aquaculture**

In most of Eastern European countries, the Ministry of agriculture is in charge of aquaculture, both in marine water and in fresh water. According to the information provided by the national reports, the situation of aquaculture sectors is quite diverse and aquaculture enterprises have many different status (Table 2).

#### **Status of the enterprises**

In Croatia, all the aquaculture enterprises are privately owned or in the process of privatisation, but it is difficult to find partners interested in buying the larger companies. Most of the farms have cash-flow problems and are lacking investment and new equipment. Joint ventures are welcomed, as they provide new capital, knowledge and contact with European industrial sector. They have been used for two farms (Katavic, 1996).

In Czech Republic, after forty years of absolute nationalisation, former State fish farms have been transformed into limited companies or private farms. This privatisation has been achieved in 1995. Shortage of capital, not well advanced style of work in some sectors and underdeveloped market slow down the transition process (Berka and Filistein, 1996).

In Hungary, most of the fish farms have been privatised. During this transition period, the volume of fish production has declined. Closed water bodies belong to the owner of the land but large open water bodies are still State property (Varadi, 1996).

In Poland, too, State fish farms have been privatised in 1995. The number of private enterprises is steadily increasing. All open waters still belong to the State, except waters located within private land. Natural waters belonging to the State are gradually leased to private companies which at present use over 75% of inland waters for fishery purposes (Szczerbowski, 1996).

In Lithuania, the fresh water fish farms have been privatised, but the hatcheries stay State owned (Rusakevicius et al., 1996).

In Romania and in Bulgaria, the privatisation is in process. Even if the enterprises still belong to the State, they are considered now as commercial self-financing enterprises. In Bulgaria, where the government has stopped giving any subsidies for aquaculture since 1991, most of the State fish farms are in financial bankruptcy because they have to cope with unstable and costly feed, water and electricity supplies and with high administrative costs. The cooperative sector accounts for 30% of the fish farming production but the slow privatisation process, the lack of capital and the high interest rates for bank credits are major obstacles for investment (Zlatanova and Kissiov, 1996). The existing Romanian farms are usually formed of large fish ponds (sometimes over 500 ha.). This situation does not facilitate the control of production parameters and limits the intensification of the techniques (Rauta et al., 1996).

Most of the farms are still managed by the State in Belarus and in Russia. Recently, some private enterprises have tried to create small farms for fish on-growing (mainly rainbow trout) in Belarus (Golubev and Kulesh, 1996). In Russia, private farmers and joint-ventured enterprises account for less than 10% of the fish farming production (Barannikova and Mamontov, 1996).

### **Associations and other forms of cooperation**

Fish farmers associations are to be found in Hungary, Czech Republic and Romania. In Czech Republic, the Fish Farmers Association was established in 1991 as a professional organisation of fish farmers and processors. Today, the Association has 46 members representing a dominant part of the fish farming and processing industry (from total fish production, about 83% is covered by members of the Association). The Fish Farmers Association is also a member of other Czech agriculture and food organisations (Berka and Filistein, 1996). The Romanian Fish Culturists and Fishermen Association, settled in 1992, is a professional non-governmental association having as main objective to strengthen the links between fisheries specialists by mean of training courses, workshops and consultancy (Rauta et al., 1996).

In Croatia, there are no voluntary fish farmers associations, but all commercial companies are required to join the Croatian Chamber of Commerce. The purpose of the Chamber is to act like a trade union for its members, representing their interests to the government and to other industries (Katavic, 1996).

### **The different forms of organisation of the production in European aquaculture**

Aquaculture in the European Union and in Norway has reached 1 500 000 tonnes in 1995, for an ex-farm value of around 4 000 million of US\$. These data include finfish and molluscs, both in marine water and in fresh water. The sector is characterised by a great diversity in the size of the enterprises, a large majority of which are small scale. Two new phenomena, however, are noticeable in the development of the farming of sea fish: on the one hand, the creation of industrial groups and, on the other hand, the increasing integration of production and processing. Because of technology, geography and government regulations, the growth of these groups generally occurs by multiplying the number of production sites rather than by increasing the productive capacity of existing sites. Although there are a few sites whose

production exceeds 1 000 tonnes, the average annual production of farming units is about 200 to 300 tonnes. Given the diversity of the productive structures, there is not a sole model for organisation of the production. All the situations can be found, from the total individualism to a formal organisation acknowledged by the public authorities and allowed to implement compulsory regulation to its members.

### **The producers' organisations ("POs") according to the Community regulation**

The POs have been defined under the European Common Fisheries Policy<sup>1</sup> as "any recognised organisation established on producers' own initiative for the purpose of taking such measures as will ensure that fishing is carried out along rational lines and that conditions for the sale of the products are improved". The major aims assigned to POs refer to resource management and to marketing. This principle to delegate the responsibility of market organisation has been transposed from the fruit and vegetables sector (Artigues et al., 1995). POs are voluntary, mainly cooperative based organisations and mostly financed by means of a levy on members' production. They may be established at a regional or national level and must account for a specified minimum of the production within the area for which the recognition is sought. In some cases, the production and marketing rules of a PO may be extended to non members who market their products in the area for which the PO is representative. These POs have become a major institutional force within the European Union fisheries sector. Within the POs, fishermen were enabled to operate price intervention (withdrawal) schemes, administer fish quotas, and undertake both marketing and processing functions (Muir et al., 1996).

In the aquaculture sector, POs are more seldom seen. On the basis of former federative structures, POs have been implemented for mussel farming at a regional level in Spain (one in Galicia and one in Catalonia) and at a national level in the Netherlands. Some attempts of regional POs for shellfish have been done in France (oysters at Marennes-Oléron, off-shore mussels at Sète), but they have not been operational so far. In Spain, most of the mussel farmers participate in local producers associations which are in charge of pooling the orders from the wholesalers or the processors. The associations are grouped in a PO which has to fix a reference price and a withdrawal price, manage the collective trade structure and promote the product. In the Netherlands, almost 90% of the mussel farmers are members of the PO which regulates and concentrate the supply in the Yerseke auction. Mussels need to meet minimum quality standards to be sold through the PO. Members may benefit from a withdrawal fund. Recently, the Dutch PO has been involved also in the management of the mussel-seed fishery (Keus, 1994). In both cases, the implementation of POs has been facilitated by the concentration of the production units in a small area. It has been followed by a steady increase of the price paid to the farmers (Antona et al., 1991).

### **Other structures set in place at a local or a national level**

#### **Sectorial organs of representation**

Apart from these POs, there is a lot of organs of representation for each aquaculture sector (shellfish culture, marine aquaculture, inland aquaculture), both at a local and a national level. The principal functions of these structures are institutional: supply of consultative advice,

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<sup>1</sup> Council Regulation: (EEC)No.3796/81 and (EEC)No.3759/92

negotiation with the Central Administration, elaboration and circulation of information for usage by the profession, realisation of collective actions which are of general interest for all the local representative bodies, coordination of the local organs for representation at a national level.

These structures have no decisional power in resource management nor in market organisation. In the case of shellfish culture, except in Italy where the cooperatives play an important role by supplying inputs and organising the wholesale market, individualism is the rule. This sector is characterised by serious problems of resource over-exploitation and market uncertainty.

### **Organisation of the production for a quality approach**

As a response to the increasing competition on the European sea-food market, more and more shellfish and finfish farmers have initiated a quality approach on the basis of collective structures. That is the case for instance of the associations of salmon farmers in Scotland and Shetland Islands which have adopted rigorous specification requirements so called "quality manual" under the guidance of the Scottish Salmon Board. This approach, which has been finalised by the award of the French top-grade sign of quality called "Label Rouge", has given a price premium to Scottish salmon on the European market (Paquette, 1995). The definition and the recognition of quality for sea-food is not something easy to reach because it has to deal with different personal interests (producers, wholesalers, retailers, consumers) which may be conflictual. It is a real social process which requires an organisation of all the actors involved along the production chain, from the equipment and input suppliers to the final consumer, including the administrations.

### **The case of the Norwegian salmon industry**

The Norwegian salmon industry has been supported at its inception both by a voluntary public policy (regulation concerning the structures of production, research and development programs, incentive policy) and a rigorous organisation of the profession through a commercial structure so called "FOS". The FOS used to have the monopoly of Norwegian salmon marketing and was in charge of generic promotion and of relations with the exporters. After the FOS and the government turned out unable to forecast the expanding supply of salmon and to regulate the market, a new sectorial organisation has been set up. The government regulatory role has been reduced to the control of the environmental impact whilst industrial groups and producers' associations have induced a concentration of the production and an integration of the commercialisation. Nevertheless, some issues like regulation of the supply or product quality differentiation are still at stake (Lucet, 1994).

### **International structures**

The European Commission does not acknowledge any agricultural professional organisation at an international level, but is eager to help representative structures through a special Committee so called "COPA"<sup>2</sup>. This is how the Federation of European Aquaculture Producers (FEAP) has received European funding to establish a network for the collection of marketing information around Europe. This project which is aiming at updating prices and

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<sup>2</sup> Comité des Organisations Professionnelles Agricoles de l'Union Européenne.

volumes marketed every two weeks has been initiated by the Federation of Greek Mariculturers with the participation of the Scottish Salmon Growers Association, the British Trout Association and the Association of Italian fish farmers (Theodorou, 1996).

### **Cooperation between European countries and Mediterranean countries for the development of aquaculture**

Due to good natural conditions and political will, marine aquaculture has developed recently around the Mediterranean sea. Both private entrepreneurship and public international cooperation have participated in this fast development. The MEDRAP<sup>3</sup> project of the FAO has constituted a link of exchange of knowledge and transfer of technologies among the north and south of the Mediterranean. During its first phase, coordinated by IFREMER, many activities aiming at vulgarising aquaculture and elaborating pilot projects, as well as socio-economic studies at the national and the regional levels, were realised. During its second phase, the aim was to establish networks to ensure the continuity of the cooperation and to favour the exchange of information among the Mediterranean countries. Thus, a regional information system called SIPAM<sup>4</sup> has been implemented in Tunis, as well as three thematic networks devoted to socio-economics (SELAM), environment (EAM) and technology (TECAM). The financing of these networks is provided by various partners such as the European Community, the FAO and national institutions.

### **Conclusion**

A decollectivisation process leading to a disorganised production system would induce many impediments to the development of aquaculture in Eastern Europe. A lack of organisation of the production would result in:

- inadequate management of the water supply (either free access with the risk of over-exploitation or totally administered system without participation of the users),
- difficulty to attract investment and to liberate enough capital for new equipment,
- no economies of scale and consequently high production costs (poor price competitiveness),
- uncertain control of product quality (poor quality competitiveness),
- no regulation of the volumes according to the demand,
- difficulty to organise product promotion campaigns and to develop labels or other signs of quality.

Nevertheless, the organisation of the production may be realised under various forms, according to the socio-cultural context of each country and according to the state of development of each aquacultural sector. On the one hand, the organisation of the production must be flexible enough to evolve with the sector, as it has been seen in Norway, where an industrial vertically integrated organisation has succeeded to an organisation of small scale producers in a State regulated context. On the other hand, it must be powerful and rigorous enough to enforce clear rules in order to avoid free-rider and black sheep behaviours which would run down the benefits of the organisation.

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<sup>3</sup>Mediterranean Regional Aquaculture Project

<sup>4</sup>System of Information for the Promotion of Aquaculture in the Mediterranean



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**Table 1 : Decollectivisation and new structures of production in Eastern European agriculture**

Sources : Politique, marchés et échanges agricoles dans les pays en transition - OECD/CCET - 1996

L'élargissement de l'Union Européenne à l'Est et l'agriculture - Chambres d'Agriculture - Supplément au n°835 - juillet 1995.

Country	Structures before 1989	Decollectivisation and state of land privatisation	New production structures in 1995
<b>Albania</b>	- no private sector - State farms and cooperatives	- restitution to members of cooperatives - no property given to former owners - private property for 96% of the surface	- majority of very small scale enterprises - development of private farmers associations
<b>Belarus</b>	- very small private sector - collective farms and State farms	- almost no process of privatisation	- few creations of private farms - coexistence of collective farms and individual gardens
<b>Bulgaria</b>	- very little private sector (10% of the surface) - huge State farms	- almost 50% of the land has been privatised - many conflicts between former owners and State farm employees - temporary allocation of public land to private entrepreneurs	- 40% of the surface is exploited by small farms (among which 80% are below 4 ha) - 60% of the surface is managed by large private farms or by cooperatives
<b>Croatia</b>			
<b>Estonia</b>	- very small private sector - collective farms and State farms	- privatisation not yet achieved	- half of the surface is exploited by small scale farms - half of the surface is managed by private enterprises which rent the land from the State

<b>Country</b>	<b>Structures before 1989</b>	<b>Decollectivisation and state of land privatisation</b>	<b>New production structures in 1995</b>
<b>Czech Republic</b>		<ul style="list-style-type: none"> <li>- privatisation of 95% of the surface (not yet completed for State farms)</li> <li>- the land property is highly divided</li> </ul>	<ul style="list-style-type: none"> <li>- transformation of cooperatives in large producers associations and other corporates (60% of the surface)</li> <li>- majority of big farms in the private sector</li> </ul>
	<ul style="list-style-type: none"> <li>- almost no private sector</li> <li>- State farms and cooperatives</li> </ul>		
<b>Slovakia</b>		<ul style="list-style-type: none"> <li>- privatisation of 80% of the surface in small units</li> <li>- 20% of the surface remains in State farms</li> </ul>	<ul style="list-style-type: none"> <li>- majority of big enterprises issued from cooperatives</li> </ul>
<b>Hungary</b>	<ul style="list-style-type: none"> <li>- 14% of the surface was in the private sector</li> <li>- majority of cooperatives and State farms</li> </ul>	<ul style="list-style-type: none"> <li>- 90% of the surface has been privatised for the benefit of numerous former owners and cooperative members</li> </ul>	<ul style="list-style-type: none"> <li>- very few land owners are exploiting their property</li> <li>- half the farmers still belong to new cooperatives which are smaller than the former ones and which rent the land</li> <li>- cooperation between private farmers and cooperatives</li> </ul>
<b>Latvia</b>	<ul style="list-style-type: none"> <li>- very small private sector</li> <li>- collective farms and State farms</li> </ul>	<ul style="list-style-type: none"> <li>- privatisation of the land in process</li> </ul>	<ul style="list-style-type: none"> <li>- 80% of the surface is exploited by small scale farms</li> <li>- 20% of the surface is exploited by new enterprises and by the last State farms</li> </ul>
<b>Lithuania</b>	<ul style="list-style-type: none"> <li>- very small private sector</li> <li>- collective farms and State farms</li> </ul>	<ul style="list-style-type: none"> <li>- privatisation of the land in process</li> </ul>	<ul style="list-style-type: none"> <li>- 60% of the surface is exploited by small scale farms</li> <li>- the big enterprises coming from collective farms rent the land from the State or from private owners</li> </ul>
<b>Moldova</b>	<ul style="list-style-type: none"> <li>- very small private sector</li> <li>- collective farms and State farms</li> </ul>	<ul style="list-style-type: none"> <li>- very few privatisations</li> </ul>	

<b>Country</b>	<b>Structures before 1989</b>	<b>Decollectivisation and state of land privatisation</b>	<b>New production structures in 1995</b>
<b>Poland</b>	<ul style="list-style-type: none"> <li>- importance of the private sector which used to run 77% of the surface</li> <li>- few State farms and almost no cooperatives</li> </ul>	<ul style="list-style-type: none"> <li>- very few new privatisations because of legal and financial problems</li> <li>- public land is for rent</li> </ul>	<ul style="list-style-type: none"> <li>- progressive increase of the average size of enterprises but majority of small scale farms</li> <li>- regional disparities with larger farms in northern Poland</li> </ul>
<b>Romania</b>	<ul style="list-style-type: none"> <li>- 85% of the surface belonged to State farms and to cooperatives</li> </ul>	<ul style="list-style-type: none"> <li>- 80% of the public land has been privatised in numerous small units</li> </ul>	<ul style="list-style-type: none"> <li>- majority of small scale farms but development of new forms of unformal associations</li> <li>- the cooperatives have been transformed in farming companies</li> </ul>
<b>Russia</b>	<ul style="list-style-type: none"> <li>- very small private sector</li> <li>- collective farms and State farms</li> </ul>	<ul style="list-style-type: none"> <li>- slow process of privatisation</li> <li>- priority is given to employees of the collective farms</li> <li>- possibility to buy unused land</li> </ul>	<ul style="list-style-type: none"> <li>- very few creations of private farms</li> <li>- most of the collective farms are still working</li> </ul>
<b>Slovenia</b>	<ul style="list-style-type: none"> <li>- most of the land used to be private property</li> </ul>	<ul style="list-style-type: none"> <li>- restitution of the public land to former owners</li> </ul>	<ul style="list-style-type: none"> <li>- concentration of the enterprises thanks to new possibilities of renting the land on the free market</li> <li>- 10% of the surface is still exploited by State farms</li> </ul>
<b>Ukraine</b>	<ul style="list-style-type: none"> <li>- very small private sector</li> <li>- collective farms and State farms</li> </ul>	<ul style="list-style-type: none"> <li>- slow process of privatisation which begins with the private gardens</li> </ul>	<ul style="list-style-type: none"> <li>- majority of collective farms and State farms</li> <li>- noticeable production from the private gardens</li> </ul>

**Table 2 : Institutional organisation of aquaculture in Eastern European countries**

(Source : national reports)

Country	Ministry	Status of enterprises	Associations and other forms of cooperation
<b>Albania</b>			
<b>Belarus</b>	- Belorussian State Committee of Fishery	- mostly State fish farms - some private farms for rainbow trout	
<b>Bulgaria</b>	- Ministry of Agriculture - Fish Husbandery Act (1982)	- few State enterprises have been privatised, but have been considered as self-financing since 1991 - 30% of the production comes from private farms	
<b>Croatia</b>	Department of Fisheries in the Ministry of Agriculture	- all aquaculture enterprises are privately owned or in the process of privatisation	- no fish farmer associations - requirement to join the Croatian Chamber of Commerce
<b>Estonia</b>			
<b>Czech Republic</b>		- former State farms have been transformed into limited and joint-stock companies or private farms (completed in 1995)	- Fish farmers Association
<b>Slovakia</b>			

<b>Country</b>	<b>Ministry</b>	<b>Status of enterprises</b>	<b>Associations and other forms of cooperation</b>
<b>Hungary</b>	- Ministry of Agriculture	- most of the fish farms have been privatised - closed water bodies belong to the owner of the land - large open water bodies stay State property	- Hungarian Fish Farmers Association
<b>Latvia</b>			
<b>Lithuania</b>	- Fisheries Department of the Ministry of Agriculture	- Fish farms are private - Hatcheries are managed by the State	
<b>Moldova</b>			
<b>Poland</b>	- Ministry of Agriculture, Forestry and Food economy - Inland Fishery Act	- State fish farms have been privatised in 1995 - State waters are leased to private users	
<b>Romania</b>	- Ministry of Agriculture and Food	- privatisation in process	- Romanian Fish Culturists and Fishermen Association
<b>Russia</b>	- Ministry of Food and Agricultural Production (Rosrybkhos) - State Committee for Fishery	- mostly State farms depending on the Ministry of Food and Agricultural production - private farmers and joint enterprises represent less than 10% of the fish production	
<b>Slovenia</b>			