NATIONAL FISHERIES STRATEGIC PLAN OF HUNGARY

for the programming period of 2007-2013

2007.
October

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LIST OF ABBREVIATIONS

HUNGARIAN	ENGLISH	APPELLATION
AKI	AERI	Agricultural Economics Research Institute
AVOP	OPARD	Operational Programme for Agriculture and Rural Development
ÁOP	OPSR	Operational Programme for State Reform
EHA	EFF	European Fisheries Fund
EMVA	EFARD	European Fund for Agriculture and Rural Development
EU	EU	European Union
ÉTT	DNA	Delicate Natural Areas
FVM	MARD	Ministry of Agriculture and Rural Development
FIFO	FIFO	First In First Out
GDP	GDP	Gross Domestic Product
GOP	OPED	Operational Programme for Economic Development
HAKI	RIAFI	Research Institute for Aquaculture, Fisheries and Irrigation
HOP	OPF	Operational Programme for Fisheries
HOPE	FIFG	Financial Instrument for Fisheries Guidance
HASKOBI	CFSC	Committee for Fisheries Strategy Coordinating
HALTERMOSZ	HFFAPB	Hungarian Fish Farmers Association and Product Board
IH	MA	Managing Authority
IGH	CA	Confirming Authority
KHP	CFP	Common Fisheries Policy
KHV	KHV	Koi-Herpes Virus
KEOP	OPEE	Operational Programme for Environment and Energy
KSH	HCSO	Hungarian Central Statistical Office
MB	MC	Monitoring Committee
MTA	HAS	Hungarian Academy of Science
MVH	ARDA	Agriculture and Rural Development Agency
MOHOSZ	NFHA	National Federation of Hungarian Anglers
NHST	NFSPH	National Fisheries Strategic Plan of Hungary
NSRK	NSRF	National Strategic Reference Framework
NVT	HRDP	Hungarian Rural Development Plan
OHA	HDBF	Hungarian Data Bank of Fisheries
SKV	SER	Strategic Environmental Review
TÁMOP	OPSR	Operational Programme for Social Reform
TS	TA	Technical Assistance
ÚMFT	NHDP	New Hungary Development Plan
ÚMVP	NHRDP	New Hungary Rural Development Program
ÚMVST	NHRDSP	New Hungary Rural Development Strategic Plan
VKI	WFD	Water Framework Directive

0. INTRODUCTION

The 1198/2006/EC regulation (27.07.27.) of the European Fisheries Fund (EFF) specifies that every member state should prepare a National Fisheries Strategic Plan (NFSP)[1] for the programming period of 2007-2013, based on a close partnership both with the national stakeholders and the Commission. According to the EFF, every member state has to prepare the NFSP and the Operational Programme for Fisheries (OPF), which also describes the co-financing subsidy system of the member state. The member state determines the specific aims and priorities of the activity of EFF, taking into account the strategic disciplines set up for the Common Fisheries Policy (CFP) by the Commission. This strategic plan, which marks the interventions and the financial contribution needed from the EFF and other sources, also serves as a frame of reference for building up the OPF. During the working out of the Hungarian NFSP, all the relevant aspects of the CFP have been taken into consideration (except for those aspects, which were not relevant due to its landlocked continental location and the lack of seashore). The content of the NFSP has been divided into groups based on the priority-axes and objectives set up by EFF.

Based on the Council Regulation of the European Fisheries Fund (EFF), the relating directives, the national laws and the relating rules concerning fisheries Hungary has elaborated the National Fisheries Strategic Plan of Hungary (NFSPH).

0.1. The Framework of the National Fisheries Plan

The National Fisheries Strategic Plan of Hungary (NFSPH) contains all the objectives, which are desired to be achieved by all the stakeholders of fisheries in the framework of the II. National Development Plan (NDP) in the period between 2007-2013. During the drawing up of the strategy, we mentioned only those aims and the subsidies relating to them, in which the fisheries sector is concerned and interested. The system of subsidies contains the co-financed and the solely nationally financed subsidies, the magnitude and intensity of which is shown by the source map of subsidies.

0.2. The ex-ante evaluation of the National Fisheries Plan

The EFF does not detail the rules of the ex-ante evaluation of the NFSPH, but the OP, which was worked out in accordance with the EFF and the strategic plan, should be subjected to pre-, interim-, and post-evaluation. The aim of the evaluations is to improve the quality and effectiveness of the subsidies granted from the Fund, and the execution of the operative program. The effects of these are also valued by the disciplines determined in article 18a, concerning the relevant parts of the national strategic plan and the particular problems concerning the member states, while they take into account the demands of sustainable development in fisheries sector and the effect on the environment.

The aim of *pre-evaluation (ex-ante)* is to ensure the harmony between the determined disciplines, the relevant part of the national strategy plan and the operative program, to optimise the

[1] The term „fisheries" (in Hungarian „halászat") includes both capture fisheries and aquaculture.

division of budget sources that was made according to the operative program, and to improve the quality of programming.

The aim of *interim evaluation* is to examine the effectiveness of the whole or a part of the operative program, to make it conform to the strategic plan in order to improve the quality of the subsidy and the execution and to make the needed changes.

In the framework of *post-evaluation* the achievement of aims set up in the operative program and the strategy plan are evaluated, as well as the reasons of modifications and the directions of the foundation of the next programming period.

During the ex-ante pre-evaluation of that version of the Operational Programme for Fisheries, which gave the subject of the examination, the content of the actual NFSPH had to be considered. The two documents should be examined in a complex way. The referring statements of the ex-ante evaluation have been considered during the creation of the later versions of the documents. The ex-ante evaluation is in conjunction with the technical content of the NFSPH, and its remarks apply mainly to the structuring of the objectives.

In the framework of the strategic discussion, the member state should have a discussion with the Commission until 31st of December 2011 about the content of the national strategic plans and the results achieved during their execution.

0.3. The Elaboration and Stakeholder Consultation of the National Fisheries Strategic Plan

During the elaboration of the NFSPH the principles of partnership and transparency had to be taken into consideration as basic requirements. To ensure this a special procedure mechanism was set up.

- The Managing Authority (MA) managing the application of Financial Instrument for Fisheries Guidance (FIFG) in the programming period of 2004-2006 has concluded a contract with the Research Institute for Aquaculture, Fisheries and Irrigation (RIAFI) for the elaboration of NFSPH and OPF.
- To assist the Committee for Fisheries Strategy Coordinating (CFSC) was formed, the members of which are the representatives of Department of Natural Resources, Ministry of Agriculture and Rural Development; Agriculture and Rural Development Agency (ARDA), Research Institute for Aquaculture, Fisheries and Irrigation (RIAFI); the Centre for Agricultural Sciences, Debrecen University and the Hungarian Fish Framers Association (HFFAPB). The common feature of all the members is that they have wide knowledge of fisheries, economics and technical management in fisheries.
- Based on the experiences with the national subsidies and the FIFG, and wide-ranging technical consultations Committee for Fisheries Strategy Coordinating (CFSC) has prepared the draft NFSPH.
- This material has been discussed on a technical expert forum of fisheries, and after the modifications agreed in the framework of partnership, the No. 1 version was made. On the technical expert forum the below listed organisations were represented:
    1. Section of Hunting, Fishery and Water Management, Department of Natural Resources, Ministry of Agriculture and Rural Development;
    2. Hungarian Fish Framers Association and Product Board (HFFAPB);

3. National Federation of Hungarian Anglers (NFHA) representing 320 thousand anglers;
4. Balaton Fishery Company;
5. The largest state-owned fish farm, the Hortobágy Fish Farm Company;
6. Szegedfish Ltd. as the representative of one of the largest fish farms;
7. Aranyponty Ltd. as the largest multi-functional pond fish farm.
8. Körös Fishery Cooperative as the representative of natural water fishery;
9. Szarvas-Fish Ltd. as the representative of intensive African catfish production;
10. Tógazda Fishery Ltd., as one of the largest private producers;
11. University of Debrecen (Debrecen) and Szent István University (Gödöllő);
12. Euconsult Foundation as the representative of fishery extension;
13. Committee for Fisheries Strategy Coordinating (CFSC) as the creator of the material and the further documents.

- Version No. 1 has been discussed through a wide stakeholder consultation. In the framework of this the members of the Thematic Workgroup of the Ministry of Agriculture and Rural Development in the Closing Up Program of Rural Areas (agricultural structural change), the Members of the Hunting, Fishing and Water Management Sector Council of the Conciliating Council of Agriculture and Rural Development, the affected or possibly affected members of the Operative Monitoring Program of Agriculture and Rural Development, who were not listed in the earlier list and those who are not listed in the above lists, but who are members of important fisheries relating organisations have been asked about their opinion. For those, who may want to express their opinion unnamed, Version 1. of NFSPH has been put on the website of the Ministry of Agriculture and Rural Development, together with an invitation for comments.
- In the framework of the partnership with the Commission, the Version 1. has also been sent to DG Fisheries and Maritime Affairs.
- The comments have been summarised and discussed on a wide repeated professional forum and the modifications have been built into a final version.
- After the conciliation and discussions, the modifications have been corrected in the translated version as well.
- The Strategic Environmental Review (SER) of the NFSPH has been done parallel to this. Assuming that the majority of the different opinions have become known, the final version of the NFSPH will be submitted to the Commission after the member-state acceptance, in October, 2007.

1. THE MISSION STATEMENT OF THE HUNGARIAN FISHERIES SECTOR

Fish farming -especially pond fish farming (which is dominant in Hungary)-, agriculture, environment protection, nature conservation and rural development are areas very closely linked to each other. Nevertheless, rural area including fishponds is the scene of food production and at the same time, it is biological and social living space as well.

Pond fish farming in Hungary is a special sector of agriculture, since it has the features of both animal husbandry and plant cultivation, and besides it is significantly determined by nature conservation, environment protection and socio-economics. Because of these circumstances, the mission of the sector is very complex, which can be summarised according to the followings:

"The conservation and enhancement of natural values, especially aquatic habitats and the preservation of fisheries related traditions in the changing social and economical environment as well as making conformity with the functions of the sector, which are:

- **economic (production),**
- **protection and enhancement of nature and environment (conservation),**
- **welfare function (tourism, recreation),**
- **contribution to the improvement of healthy feeding through increased fish consumption."**

The most important criteria of pond fish farming is to complete its task in the ever changing economical, social and natural environment in a way, that the resources needed for its operation will sustain on a long term and take the environmental values into consideration (principle of precaution). The specific tasks of the Hungarian fisheries sector:

- environmentally, economically, and socially sustainable production,
- providing employment and livelihood in rural areas,
- satisfying local and export consumer demands through supplying safe food,
- contributing to the preservation of aquatic habitats and biodiversity,
- contribution in satisfying the demands of angling and recreation.

The sector should comply with the requirements of sustainability, so it should be profitable, suitable for financing, socially accepted and environmentally sound and responsible resource user. The sector should manage and protect the natural values of the pond farm and the surface water environment, however it should continue production activity as its primary function.

The rich flora, mammal-, reptile-, amphibian- and bird fauna of pond farms as aquatic habitats and the abundance of migrating birds gives an incomparable natural value to Hungary and Europe, so the conservation of this diverse wildlife is definitely the interest of the whole of the society.

The economical functions of the sector are the followings: pond- and intensive farming, processing, capture fisheries, trade and fisheries relating services. Among these, it has outstanding importance to supply fish for local consumption primarily and export use as well, which has to be safe and traceable from the producer to the consumer ("From pond to plate" conception).

The most important welfare function of pond fish farming is to meet the demands of free time activities associated with water and fish. Among these, angling has the biggest significance, which is a very popular way to spend free time. Fish farms should serve angling by supplying stocking material in order to ensure good fish catch (species, size, etc.) in accordance with the relating legal regulations. Some fish farms also provide good facilities and high quality services for anglers. Fish farming has a significant role in supplying stock for angling waters, especially in those cases where the water user angling associations have high fish demand.

The sector should contribute to the preservation and enhancement of aquatic habitats and biodiversity, and should be prepared for rehabilitation works after fish kills originating from water pollution.

The sector can also play a significant role in the forming of an environment-conscious consumer view, which has a great social importance. It is a proven fact that environment-conscious consumers care much more about the health of their family's and their own, which becomes visible in healthy feeding. This way fish consumption can be increased indirectly in this segment of consumers.

It should be emphasised that pond fish farming activity is done almost solely in rural areas, often in regions which are "falling behind" or with accumulated disadvantages, where in several cases fish farming is almost the only way to make living for the local population. The responsible role of fisheries- and fish producing sector in the local society lies in creating reliable employment.

The activities of the majority of the Hungarian pond farms do not include all these functions at the moment, but in the future, the number of those farms will increase which will try to take advantage of opportunities offered by multi-functionality. According to the principle of multifunctional fish farming, food safety, landscape management, the preservation of social and biological habitats, the maintenance of infrastructure, the ecological stability, keeping the population in the area, labour force equalisation, recreational and tourist services, and the conservation of aquaculture relating traditions and values have a stressed significance beyond production.

Since fisheries, fish production (including pond and intensive production) and fish processing are activities with more-and-more significance, the sector should fulfil the social, economical and environmental expectations.

The intensive fish production sub-sector producing high value fish species contributes to the wider range of fish products. If intensive fish production plants are set up in an underdeveloped area it creates employment and it contributes to the "closing up" of the region.

Besides the satisfaction of recreational demands to sustain capture fishery in Hungary also has economical and social benefit. Its development should be based on the fisheries culture and traditions that are unique in Europe; however the development should be suitable for the adequate level and other conditions. Capture fishery has (and always had) an outstanding role in the utilisation of the natural resources in aquatic ecosystems. Based on traditional values, knowledge and experiences it is able to apply a system approach, so called "wise use", during the utilisation of natural resources in a particular ecosystem.

2. SECTOR VISION

According to the vision of the Hungarian fisheries sector, there will be a continuous development and "renewal" in the following period, and the area of aquatic habitats and their biodiversity will increase.

The application of modern and environment friendly production methods will be widespread, the proportion of renewable and alternative energy resources (wind, solar, energy plants, etc.) will become bigger and bigger to replace fossil energy resources and to satisfy the energy demands of the sector.

Vertical integration will take shape and work effectively in the sector based on producers' organisations (producing groups). This self-organising will mean predictable and controlled market for the players of the sector, this way the sector will be competitive with those member states of the European Union, where pond production of carps is also dominant.

The relative proportion of fish will increase in the structure of meat consumption, more-and-more consumers will have access to processed, healthy, safe and tasty fish products with large added value, among which there will be organic-products originating from ecological farming. The role of the fish based health protecting functional foods will increase as well.

It is expected that the number of anglers – which exceeds 320 thousand people nowadays (3,2% of the Hungarian population, but if we expand it to family level, we can say that around 10% of the population is involved in this type of recreation) – will not increase significantly, however the range of angling facilities will expand and improve, angling ponds with recreational purpose will get bigger and bigger role in relieving angling pressure on natural waters. As a result of this, more and more people will spend their free time next to water. Fish stocking in natural waters will expand, and the structure of the stock will be suitable for the ecological conditions of a particular aquatic habitat.

The maintenance and development of the fish stocks of natural waters will be financed by the fisheries users mainly from the profit coming from angling. The demand for stocking in angling waters will be satisfied from Hungarian pond fish farming. The role of angling and angling tourism will be "revaluated" in rural development.

Education institutions will supply the sector with suitable number of qualified experts (middle and high level). The financing problems of research and development will be solved; the new applied research results will be put into the everyday farming practice fast. The education-research sphere will maintain continuous connection with the production sector. Effective extension system will be available of which operation will be based on mutual interest of farmers and knowledge centres. Up to date and reliable statistical data will be available relevant to the sector. The social acknowledgement of the whole sector will improve.

Along the product line of the sector equal opportunities will be realized, concerning both state employees and enterprises, so neither employees nor small and micro-enterprises will not suffer disadvantages in the competition.

3. GENERAL INTRODUCTION OF THE SECTOR

3.1. The Significance of Fisheries Sector in the National Economy

More than ninety percent of the Hungarian fish production is coming from fishponds, where mostly common carp, bighead carp, grass carp, and some predator fish (catfish, pike-perch, and pike) are produced. The climatic and hydrological conditions in Hungary are favourable for fish production in ponds, which means that mainly the classical fishpond technologies are being applied. However there are differences between certain regions: in some regions of the country fish farming is typical, while in other regions it is almost completely missing (Figure 1.).

Figure 1. **The most significant fish production farms in Hungary**

Source: HFFAPB, 2006

In order to estimate the importance of the sector in the national economy the most commonly used indicator is the contribution to the outputs and the GDP[2]. In 2006 the annual gross production value of the Hungarian fisheries (production + catch from natural waters) is around 13-15 billion HUF, of which two items have great importance: pond production with 6.5 billion HUF and natural water fish production with 3.1 billion HUF. At present the Hungarian fisheries sector gives about

[2] The contribution of the Hungarian agriculture sector was: 3.0% to GDP; 6.1% to the export; 4.6% to the investments; and 5.0% to the employment respectively in 2005

2,5% of the gross production value of animal husbandry[3] and about 1% of the total Hungarian agricultural production. However, the significance of fisheries goes beyond that fact, since the existence and economical performance of several supplying and servicing sectors and also the entire recreational fishery and angling is based on this sector.

It is very important to highlight the social value of its contribution to the protection of natural environment and to rural livelihood, and that Hungarian pond fish production is "cereal-based" sector, which is able to decrease the surplus of cereal stocks primarily regarding wheat, barley, triticale and corn.

If we take the area of the operating fishponds in Hungary as a starting point and we calculate with an average of 2 tons/ha cereal consumption as fish feed, the cereal demand of the sector will be about 50 thousand tons annually. It means approximately 12-16 thousands hectares arable land usage depend of the climate conditions and yields.

3.2. The General Description of the Sector According to the Priority-axes of the EFF

3.2.1. Priority-axis I.: Measures for the Adaptation of the Community Fishing Fleet

Because of the enclosed continental geographical location of Hungary, it does not have any seashore; therefore, there is no Hungarian fishing fleet either so the relative measures are not relevant.

3.2.2. Priority-axis II.: Aquaculture, Inland Fishing, Processing and Marketing of Fishery and Aquaculture Products

In the general description of the sector official statistical data of the year 2006 have been used, among which the source of those referring to pond fish production is the Agricultural Economics Research Institute (AERI), while data about natural waters came from the Hungarian Data Bank of Fisheries (HDBF). The source of economical and commercial data is the open database of the Hungarian Central Statistical Office (HCSO). To make the tendencies visible we demonstrate the data of the last six years in the annexes.

Besides the topographic, the hydrological and climatic conditions it is also due to the composition of the natural fish fauna that carp farming in ponds became the most important type of fish production in Hungary. Next to the pond fish culture and capture fisheries the intensive fish production also has a role with increasing significance.

The total fish production in Hungary was 30,363 tons in 2006, of which the market-size products (for human consumption) are adding up to 21,859 tons (the difference is coming from the production of brood-stock and stocking material for the next year)

The economically most important fish is common carp in Hungary, which gives 61% of the total annual catch and production. Herbivorous fish species take second place with 15%, and they are followed by predators with a share of 13%, while the remaining 11% is given by breams and other

[3] Hungarian animal husbandry, crop production, agricultural services and the non-agricultural secondary activity accounted for 36; 54.2; 6.9; and 2.9% of the gross production value of agriculture, respectively.

species. The role of carp is dominated not only in pond farms, but also in the fish farming activity of water reservoirs, oxbow lakes and other natural waters. It gives 55% of the total catch of anglers and around 80% of the stocking material is also covered by the different age groups of carp

3.2.2.1. Pond Fish Production

Pond fish farming in Hungary has always been functioning as a sector of agriculture. The Hungarian-type pond fish farming technology always required the utilization of manure and cereals produced by other animal breeding and crop producing sectors. Most of the daily works interlink the optimal utilization of the agricultural machinery and human resources, so the sector always existed as an organic element of agriculture. This way this type of fish farming -the bases of which is given by large, sometimes 150-200 ha ponds- is completely different from the pond fish farming model applied in Western Europe.

Hungarian fishponds are basically man made structures, most of them have been built in drained, low laying areas which are not suitable for other kind of economic agricultural use. The Hungarian fish ponds increase the area of the aquatic habitats in the continuously drying Carpathian-basin by 34 000 hectares. This fact has serious significance concerning both water management and nature protection.

According to the statistical data, 361 pond farms were in operation in Hungary in 2006. The total pond area was 26 248 hectare, of which 23 878 hectares were in operation. The difference is coming from the area of those ponds, which were kept dry for reconstruction works.

In 2005 in the framework of the program called "Conservation of extensive fishponds" 23 194 hectares of extensive fishponds were included. The size of the total area under Natura 2000[4] is 15 615 ha of fishponds.

Concerning nature protecting aspects the fauna of Hungarian fishponds has great significance in Hungary and in Europe as well. Fishponds are very important step-stones in the European ecological network.

The nesting and migrating bird fauna also has European significance. The number of bird species around fishponds exceeds 300, which gives 80% of the total number of bird species in Hungary. The number of those species which nest on Hungarian fishponds is more than 100. The vast majority of water relating bird species in Hungary nests, feeds or rests on fishponds during their migration, so their significance must be stressed not only concerning the number of species, but also the size of population. The number of protected and SPA species is also outstanding in fishponds.

Among nesting birds the fishpond population of spoonbill *(Platalea leucorodia)*, ferruginous duck *(Aythya niroca)*, pygmy cormorant *(Phalacrocorax pygmaeus)* have great importance, and crane *(Grus grus)* and lesser white-fronted goose *(Anser erythropus)* should be emphasized among migrating birds.

A significant proportion of the European otter *(Lutra lutra)* population finds suitable habitat in fishponds. As a result of this the size of the Hungarian otter population has been stabilized. The

[4] The size of the area announced in the annex of government regulation 275/2004. (X. 8.) is 1.95 million hectares in Hungary. This is 21% of the whole area of the country. On 17. October 2006. the modification of the government regulation containing general statements has come into force. The annexes of regulation 45/2006. (XII. 8.) KvVM of the Ministry of Environment Protection and Water Management contain those land areas with European significance

organization called "Foundation for Otters" has conducted otter population monitoring since 1995, and these surveys prove that the majority (around 60%) of the Hungarian otter population –which is incomparably rich in Europe- lives around fishponds.

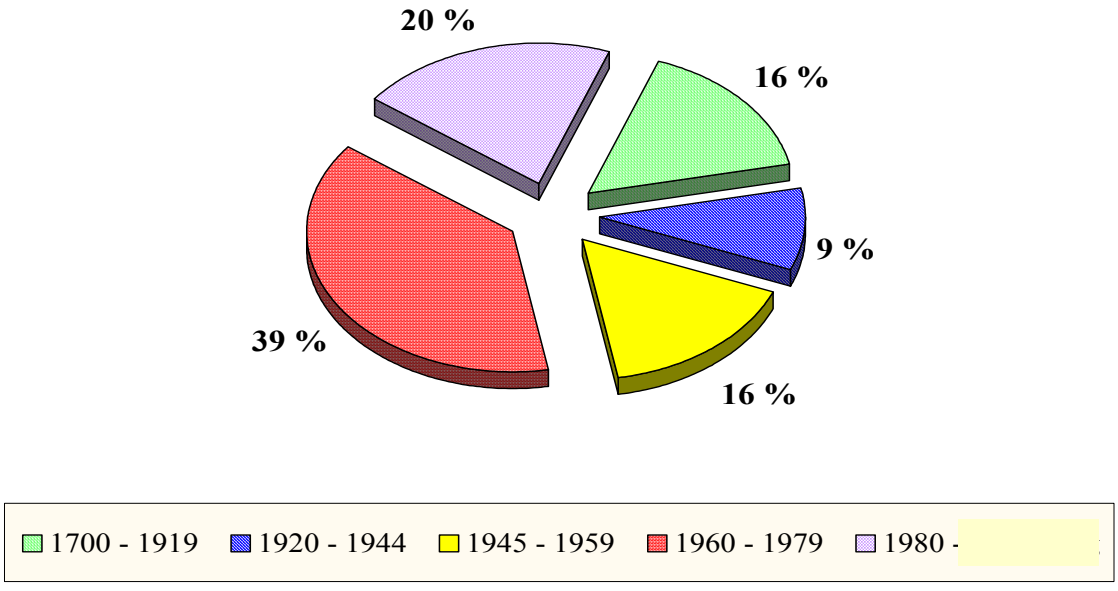
The total amount of fish harvested from ponds in 2006 was 20,762 tons, of which the amount of fish produced as human food was 12,889 tons. The amount of fish sold from pond farms as angling fish was 599 tons. The net yield for one hectare reached 550 kg in 2006. After the 75% share of carp the second most important group of fish in pond production is the group of herbivorous fish species (grass carp, bighead and silver carp) with a proportion of 17%, while the third group, the predators (pike, pike-perch, catfish) gives 2% (this does not contain the intensive African catfish production, which reaches 1,789 tons), and the remaining 6% consists of breams and other species.

The average weight of common carp was 1,7 kg, which is in accordance with the consumers' habits. Pond fish production plays a significant role in providing stock for stocking natural waters, which is done in order to enhance the natural stocks, and also in satisfying the demands of angling ponds.

According to the data available 68% of the fishponds operating in Hungary is used to produce market size fish for human consumption, 17% is used for the production of "two-summer" fish for stocking, 10% to produce fingerlings ("one-summer" fish) and the remaining 5% is utilised for other purpose, such as angling.

It is clearly seen from the data, that about 40% of the fishponds age-worn and modernisation and/or reconstruction is needed in general (Figure 2). Though as a result of the subsidy system the rate of reconstruction was higher in the last decade than earlier, it is still not enough to "save" the ponds, which have been in neglected technical conditions for several decades. To reach the strategic targets, in terms of quantity, quality and product variety, the possibility to build new ponds should be ensured besides the reconstruction.

Figure 2. **The share of Hungarian fishponds according to the time of their construction**



Source: HFFAPB, 2000.

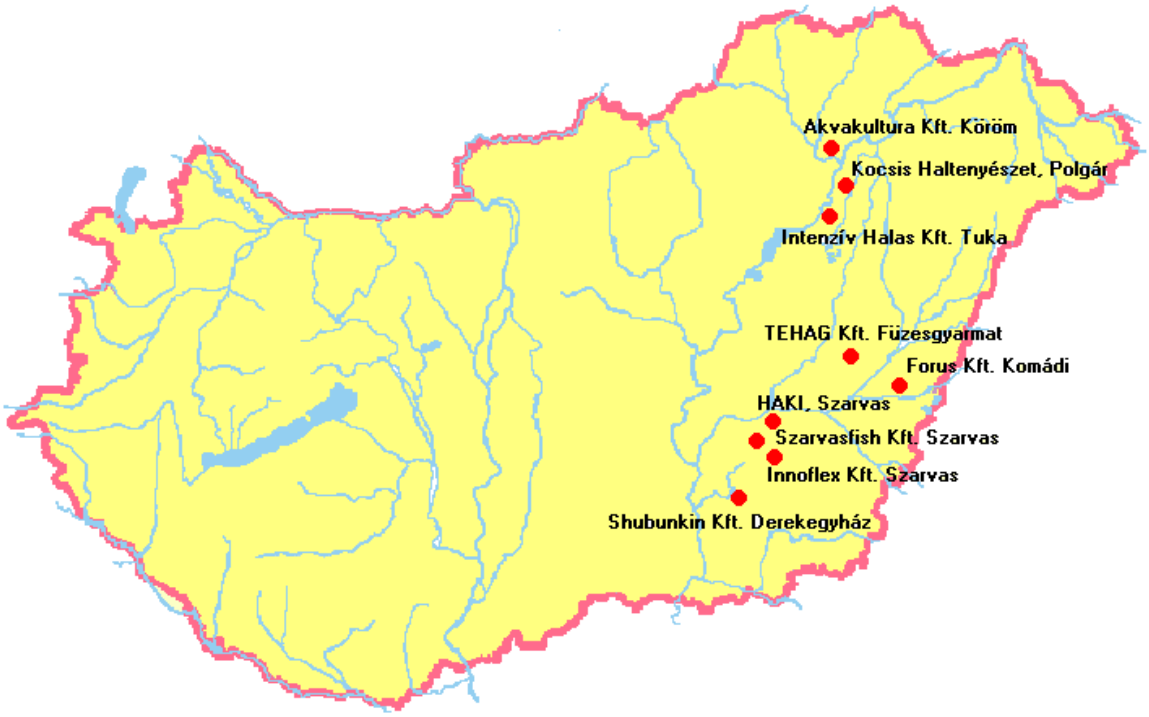
In the last few years a special way of food fish production has appeared and is gaining bigger and bigger ground, when fish is reared in natural-like conditions with keeping some specific rules. This type of fish production is a part of organic aquaculture according to the 2092/91/EGK Council Regulation.

More and more Hungarian fish farms join the Agricultural Environment Management Scheme of the National Rural Development Plan (NRDP). Most of the pond fish farms are involved in specific sub-programs of the "Aquatic Habitat Program" such as: D1. Maintenance of extensive fishponds; D2. Creating aquatic habitats; D3. Maintenance of swamps, marshes; D4. Reed management. This program ensures the everyday application of sustainable, environment-friendly farming practice.

3.2.2.2. Intensive Fish Farm Production

In 2006 there were 10 intensive fish farms in Hungary (Figure 3.), the majority of which is utilising geothermal energy. The amount of fish produced in the intensive systems was 2081 tons, and 1789 tons of that was produced as market size fish for human consumption.

Figure 3. **Location of the intensive fish farms using geothermic energy**



Source: VÁRADI, 2007

The total production of the intensive systems is continuously increasing in the last few years. Comparing to the year 2003 the total production volume in 2006 has been increased by 67%, which proves spectacularly the pulling power of market demand. These numbers confirm the growth of the demand for fisheries products, to which the short production cycle intensive systems can give the fastest and most flexible respond. The most dominant fish species applied in Hungarian intensive fish production is the African catfish *(Clarias sp.),* the introduction of which in the home market was a real success story of the Hungarian aquaculture. Producers have sold 75% more of this fish in 2006 than in 2003. African catfish gives about 96% of the total volume of fish produced in intensive systems.

3.2.2.3. Inland Fisheries

The other production base of the fish production sector is the direct utilisation of natural waters and water reservoirs. Basically it has two branches: commercial and recreational fisheries. The bigger half of recreational fisheries is angling (more than 300,000 persons) and the smaller half is the so called "hobby fishing" (3000 persons). In 2006 the total catch of the two (or three branches) was 7540 tons, 7172 tons of which was food fish.

Commercial fishing caught 2806 tons of fish in 2006 –around 37% of the total catch- 41% of which was common carp, 29% herbivorous fish, 9 % predators and 21% other species.

The volume of recreational fishing (primarily angling) was 4734 tons in 2006 –more than 63% of the total- of which 55% was common carp, 7% herbivorous fish, 11% predators and 27% other fish species.

The area of natural waters and water reservoirs is divided into 1,500 administrative units –so called "fisheries water areas"- the fishing right of which is given out for 15 years and it can be obtained through tenders, and it also contains the possibility of recreational utilisation. The total area of those water areas, where the state has the right for fishing is about 141,000 hectares. The gears used by those involved in commercial fisheries got age-worn; their replacement would be reasonable in order to maintain these working places and to preserve the traditions.

In Hungary commercial fishing is done on natural water areas and water reservoirs, partly by using traditional fishing techniques, partly by applying certain elements of pond fish farming (mainly in water reservoirs and oxbow lakes). With the exception of the latter on the vast majority of the natural waters there is both commercial and recreational fishing at the same time.

A part of the companies involved in natural water fishing is also doing pond production, and some of those who obtain the right for fishing are not doing this activity as their primary job. Pond fish farming activity can also ensure the enhancement of the population of protected and endangered species.

Pond production plays an important role in providing breeding stock (including protected and endangered species) needed for the stocking of natural waters.

3.2.2.4. Angling

In the utilisation of natural waters the importance of angling as a form of recreation is increasing. The number of anglers was 50,000 in the 1960's and by today it has increased up to 320thousand. This is 3.2% of the population, and with this data Hungary is the 13th in Europe.

The largest civil organisation in Hungary is the National Federation of Hungarian Anglers (NFHA), which consists of 1,079 clubs in 25 county- and regional associations.

Besides the recreational utilization of natural waters the amount of fish caught in angling ponds of pond farms increased significantly, so besides natural waters pond farms are also gaining an important role in satisfying the demands for recreation directly. Pond farms, which are the base of Hungarian fishery, are determinant in providing stocking material for natural waters, this way supplying anglers with fish. Of the stockings reaching 6,000 tons in the recent years, common carp itself gave 5,000 tons. The amount of predator fish stocked into angling waters reached 130 tons, while the rest were mainly breams also in this case.

3.2.2.5. Fish Processing, Trade and Marketing

At the moment there are 24 important fish processing plants working[5] in Hungary, of which 18 does primary processing, the remaining 6 does special processing (marinating, smoking) as shown in Figure 4. In the majority of these plants, they also repack import fish. The capacity of primary processing in the biggest plant is 5.2 tons of live fish per an 8 hours shift. The plant with the smallest capacity is able to process 0.4 ton of live fish per shift.

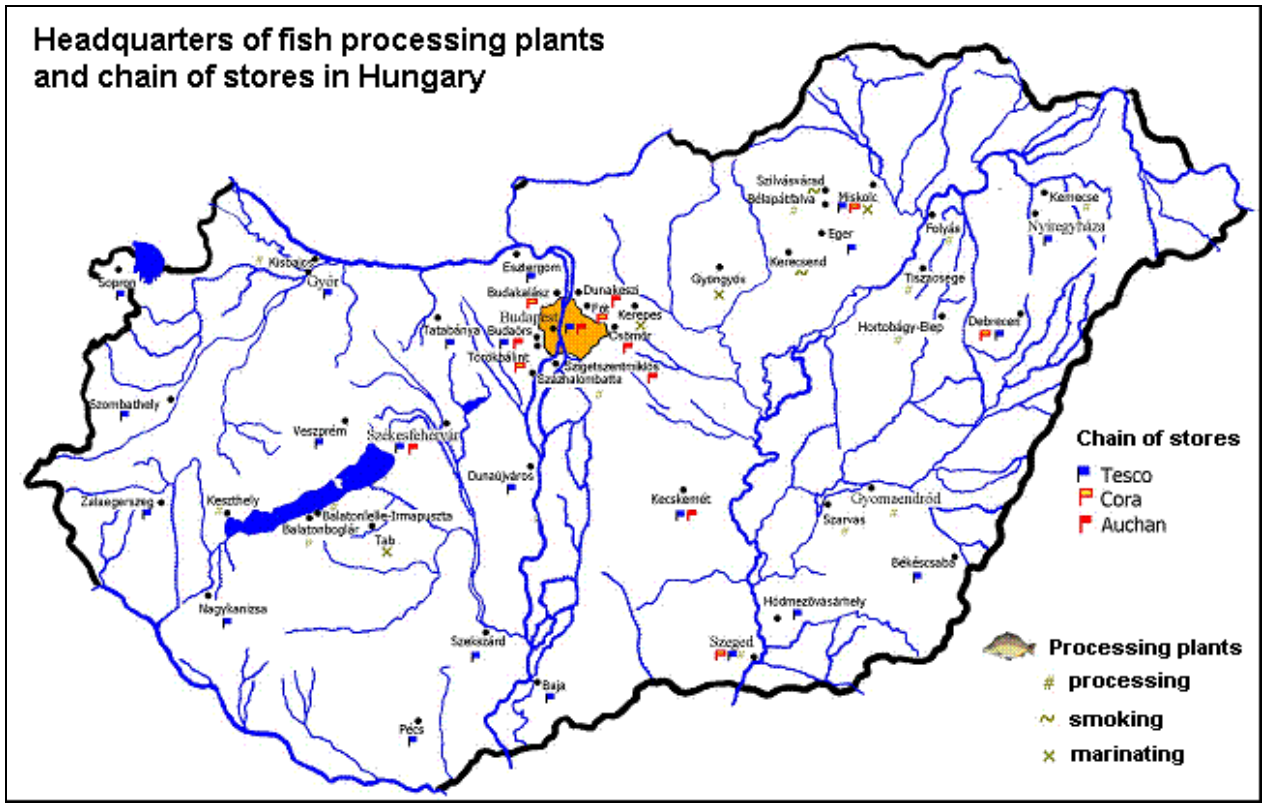
The total amount of fish processed annually is around 5,000 tons, 40-50% of which is freshwater fish (about 1,700 tons of African catfish); the rest is coming from import. The most important products coming out from the Hungarian processing plants are packed, frozen and chilled beheaded and gutted fish. Other products: fish slice, fish filet fresh or chilled, canned fish, instant fish soup, marinated fish, smoked fish, fish pulp and products used for making snack meals, like paste and fish salads. Among the products made of domestic fish the packed cleaned, beheaded and gutted fish, fish slice and filet and fish soup concentrate are the most significant.

It is typical in Hungarian fish trading that the most important characters of this product line have not changed although their economical significance and the volume of fish and fish products they are trading with have changed a lot. The product line (production-processing-distribution) went through a significant change in the last 10 years. The changes and reorganisations in the fish distribution system are still in progress, and the main elements of the changes are the followings:

- the export of live fish is decreasing, and the export of processed fisheries products is not increasing significantly;
- the significance of angling market is continuously increasing;
- the role played by fish traders in fish trade is declining, and the number of retail shops is also decreasing continuously, while the role of supermarkets is getting more and more important concerning both live fish and processed products
- the output of fish processing plants is slightly increasing both in terms of quantity and variety;
- the importance of direct sales to customers is not considerable;
- the role of catering industry stagnates in fish distribution, but while in certain regions its negligible, in other regions it can be notable.

[5] More than 24 firms is licensed for fish processing but the number of those actually dealing with it is less than that.

Figure 4. **The major fish processing plants in Hungary and the regional location of the significant chain of stores selling fish products**

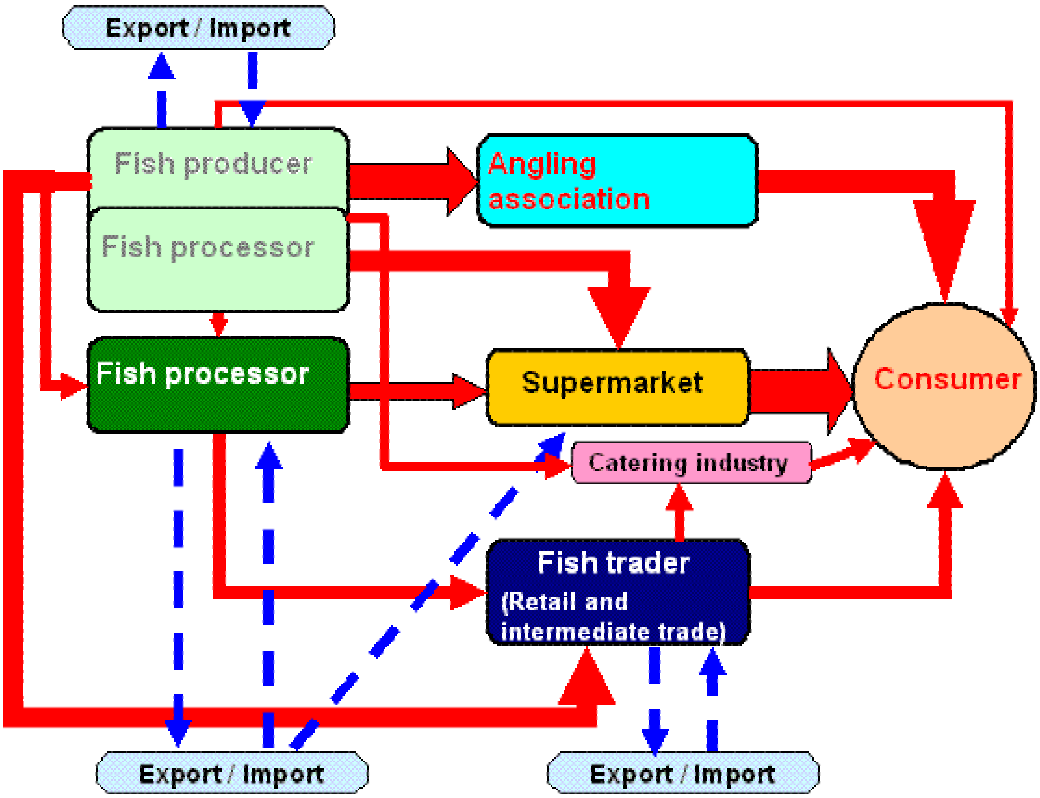


Source: HFFAPB, 2006.

It is a special situation in Hungary that the enterprises involved in fish production and fisheries are the ones which are doing fish processing as well, even though there are some independent companies which do only fish processing (canning, marinating, smoking, etc.) and fish distribution (Figure 5). Export activity is done mainly by fish producers and fish traders, since primarily live fish is sold on export markets. In the import – which consists mainly of the distribution of processed or primarily processed fish – supermarket chains have also appeared. Live fish import – which is not significant in quantity – is done primarily by fish producers and intermediate traders. In the case of carp the main direction of the export is Germany, bighead and silver carp is exported mainly to Poland, while the destination of fish species produced in intensive systems is Italy. The biggest rival of Hungary on the European markets is the Czech Republic.

There are no fish auction centres in the country, and their appearance is not probable in the future either.

Figure 5. **The main directions of fish distribution in Hungary**



Source: SZŰCS, 2006.

It is a sorrowful fact that Hungarian export means mainly live fish or ”low-level” processed fish products in contrast with import where the majority of the products has great added value and the level of procession is typically high.

Both the volume and value of the Hungarian fish and fish product import are significantly higher than the export (in volume it was 14 times, in value it was 13 times higher in 2006.). Table 1. below shows the export-import data of the last four years demonstrating the growth of the import rate of fish and fishery products.

Table 1. **Export-import of fish and fishery products in Hungary (2003-2006)**

Name	2003		2004		2005		2006	
	Net weight Tons	**Value** Thousand USD	**Net weight** Tons	**Value** Thousand EUR	**Net weight** Tons	**Value** Thousand EUR	**Net weight** Tons	**Value** Thousand EUR
Export	2 704	4 991	1 964	3 325	1 000	2 367	1 316	3 433
Import	17 437	32 669	18 836	36 536	17 507	43 068	18 546	44 651

3.2.3. Priority-axis III.: Measures of Collective Interests

3.2.3.1. Fisheries Research

Fisheries research in Hungary has a long tradition. Hungarian fisheries research celebrated the 100th anniversary of its institutional establishment in 2006.

The aims and tasks of the fisheries research in Hungary are in accordance with the national strategic aims, and they assist the realisation of those. In cooperation with education and extension, research and development should focus on the responsible utilisation and protection of our water resources, in order to improve life quality and to develop healthy feeding of the people.

The most significant fisheries research works are carried out in the Research Institute for Fisheries, Aquaculture and Irrigation (RIFAI) in Szarvas, in the Hungarian Academy of Science (HAS) and also in university faculties, private companies and national parks. The close cooperation between them should be continued through consortiums organised in connection with national and international projects, where the participation of producers is essential.

We want to achieve the practical application of the research results through the encouragement of the already existing partnerships and the ones that will be formed in the future between the researchers and other stakeholders of the fisheries sector. The connection between fisheries research and practice is also realised through innovative developments. The role of innovation and technology transfer is especially important in the development of integrated aquaculture technologies. Cooperation between the fisheries sector and the research institutions is especially important in those research programs, which are aiming at the investigation and harmonisation of the relationship between fish production and the aquatic environment.

3.2.3.2. Promotion and Market Development

Because of the change of the general Hungarian consumer attitudes the habits of fish consumption are also changing, although the changes are slow. As a result of the promoting activity has been done for several years and the variety of products, which is provided continuously, fish consumption is becoming more “regular” in the feeding habit of the people even out of the peak seasons, which are the Christmas and Easter Holidays. Besides supporting the campaigns, which try to encourage fish consumption, the support of product development is also significant, this way providing wide range of fish products for the consumers.

For the better organisation of campaigns, which aim to increase fish consumption, and for the measurement of the effectiveness of those it is essential to analyse the feedback of the consumers. This can be achieved through the continuous investigation and analysis of the consumer’s habits.

3.2.3.3. Human Resources in the Fisheries Sector

Subsequently to the size of the sector, the number of people employed is also low compare to the number of people employed by agriculture. As the number of people employed by the certain “farm units” is normally under the statistical threshold, the statistical registration of them is not entirely solved. We can often see overlaps in the employment, because the same person can be employed for example in the aquaculture relating facilities and the fish processing plant of the same farm unit, or a

person can be a member of staff in the pond farm system of the company but also a fisherman in natural waters.

According to the data available at the moment in the year 2006 there were 1,188 persons directly employed in fish production as full time (1,031 men and 157 women), there were 123 part-time employees (92 men, 31 women) and 42 (expressed in full time equivalent) occasional employees (37 men, 5 women) (1,353 total). At the moment there is no data available about the number of persons employed in natural water fishing and fish processing.

However we draw the attention to the fact that besides persons working in fish production doing it as their basic activity, there are further chances provided for working connected to the output and input side, so the actual number of employees in "aqua-business" is much higher than the number of those employed in the primary production.

On waters which are utilized by anglers or which would be able for this kind of utilization and in the companies, operating these number of full-time employees exceeds 300 even at the moment, while the number of part-time employees is close to 500.

3.2.4. IV. Priority axis: Sustainable Development of Coastal Fishing Areas

Taking into account the specific Hungarian conditions, the application of the measures of this axis would not be relevant, since we can not find any areas in the country, where low population density and declining fishery, which threatens the existence of fishery relating communities, can be found simultaneously. Because of all these specific circumstances, in agreement with the decision makers and the representatives of the sector, it was decided not to draw up any aims and package of measures to be supported in this priority axis.

3.2.5. V. Priority axis: Technical Assistance

The support of the fisheries sector by FIFG and the state in a co-financing scheme was included in the Operative Program for Agriculture and Rural Development (OPARD). The Operative Program for fisheries development, which was elaborated according to the Community Program for 2000-2006, was approved by the Commission after joining of Hungary to the EU on 1st of May 2004. In compliance with this, the administrative implementation of the Technical Assistance (TA) has been done in the framework of the Operative Program for Agriculture and Rural Development (OPARD). As for the period between 2007-2013 a separate program should be worked out and realised, the frames and the directions of support of TA will be also worked out separately. We would also like to continue the collection and procession of the statistical data of fisheries sector and the relating data supplying tasks in the framework of technical assistance.

The data on the utilisation of natural waters concerning area, stocking and harvesting will be registered by the Hungarian Data Bank of Fisheries, while the data on pond farms by the Agricultural Economics Research Institute. The basis of the statistics to be sent to different organisations (EUROSTAT, FAO, OECD) will be given by the annual report made based on the two databases. In order to achieve full transparency, the two databases should be handled on the basis of the same principles, and the source of the database should be ensured continuously.

We intend to promote the improvement of programme management skills and the measures for preparation, control, monitoring and publicity of OPF and intra-Community information flow, co-operation and knowledge transfer.

4. SECTOR ANALYSES

The Hungarian fisheries sector has a primary role in utilising the favourable ecological conditions and the resources of rural areas. It is a sector of Hungarian agriculture with a flourishing past and it should be developed and sustained in any cases in the future. Since in the case of Hungarian fisheries the processing and the production cannot be separated sharply, the issues of the processing sector will also be discussed in this chapter. It is a typical phenomenon of the whole sector that fish distribution and sales is almost entirely separated from the production, at the same time angling services often constitutes a part of pond fish farming.

4.1. SWOT Analysis of the Sector and Possibilities of Development

The SWOT analysis of the sector was carried out in three separate sections according to the three determinant sub-sectors, which are the followings: aquaculture (*Table 2*), capture fisheries in natural waters (*Table 3*), angling (*Table 4*) and fish processing and marketing (*Table 5*).

4.1.1. Aquaculture (SWOT Analysis)

Table 2. **SWOT analysis of the Hungarian aquaculture sector (pond farming and intensive production)**

Strengths	**Weaknesses**
- Favourable climatic conditions - Production of good quality brood stock - Fish ponds serve as aquatic habitats - Possibilities for production in policulture - Food safety is higher in the case of fish produced under controlled conditions - The technological basis of water saving and environment friendly fish production is known - The technological basis of organic fish production is available in pond farms - Systems of quality assurance are introduced	- Degraded fishponds, low technical level (infrastructure, machinery etc.) in the production - Low-qualified and aged work force - Significant regional differences in the conditions of production - Conservative approach of producers, low-level of innovation intensity - High rate of post-harvest and other losses - Lack of connections in integration - Low-level of organisations among producers - Low energy efficiency of intensive production - Low level of locally made fish feed usage
Opportunities	**Threats**
- Improving the life quality of Hungarian population by supplying them with healthy fish - Continuous expansion of angling market - The priority development of cereal-based animal husbandry sectors - Increasing demand for the stocking of aquaculture-produced fish into natural waters (environment protection, recreation) - Unbeaten popularity of eco- and angling tourism - Alternative methods of land use are gaining ground - Demand for technology transfer from developing countries	- Increasing damage caused by birds (cormorant) - Increasing production costs (water, energy, feed) - Appearance of Koi herpes virus - Environment-load fee - Water pollution - Conflicts between environment protection, water management and fisheries - The strict regulations of animal welfare, environment protection and nature conservation

Strengths:

The diversity of the Hungarian natural water system resulted in a great diversity of the living environment, so the very rich biodiversity and multi-coloured landscape are typical features of the region. The very low environmental impact of fish production and the fact that fish farming activity has been based on a century old professional experience have had a significant contribution to the preservation of these values.

Strength of the sector is that fish production is done along the criteria of quality assurance systems, which guarantees a high level of food safety for the consumers. We should stress the advantage coming from the availability of water efficient and environment friendly fish production technologies, and the technological bases of certified organic-fish production are also available in pond farms.

Weaknesses:

One of the weak points of the sector is the present poor conditions of the general producing infrastructure and the technical level (earth and concrete structures, machines, equipment, etc.). Comparing to other agricultural sectors the production is mechanised only in a small extent, so the technical effectiveness is extremely low.

An additional problem is that the age structure of the employees is very unfavourable in certain regions; the rate of those who are close to retirement age is high, while the technical qualification and the readiness for innovation among younger age groups is far from ideal. In the majority of pond farms the protection of private property is a constant problem, engaging significant additional capacities concerning both human resources and equipment.

Another stressed weakness is that a significant part of the Hungarian fish producers does not have fish storage facilities in the needed quality and capacity, so after the autumn harvest they have serious problems with selling their products; they become exposed to tradesmen, the result of which is sales under the potential market price.

Threats:

The most important threat is the increasing damage caused by birds, which is the result of the growing population of cormorants mainly. The other stressed danger is the possible appearance of Koi-herpes Virus in Hungarian pond farms, the prevention of which needs an overall cooperation in the sector.

Opportunities:

Among the favourable tendencies determining the sector strategy the growing demand for fish species needed to restock angling and natural waters should be emphasized, and also the growing awareness of the importance of healthy feeding and lifestyle.

Conclusions:

There is need for specific subsidies for investments (development), in order to adequately help the development of the sustainability and long lastingly competitiveness of the sector by giving preference to innovation, to developments ensuring higher added value, to energy- and cost saving, to the use of renewable energy, to high-quality production and to the protection of the natural environment.

With strengthening the environment-conscious farming through applying environment friendly fish producing technologies, the aquaculture will contribute to the protection of natural values and to the improvement of the environmental conditions. It will remain a very important task in the future to encourage these technologies.

In order to utilise market opportunities the strengthening of the cooperation between main stakeholders is needed. Fish producers should be encouraged to participate in food quality schemes, to fully comply with Community rules, to introduce information systems helping production and marketing and to a collective appearance on the market as producers groups formed according to EU regulations.

To improve the age structure of employees working in fisheries the encouragement of young fishermen to launch enterprises, and the development of the production bases of the existing ones is needed.

In order to enhance the competitiveness and sustainability of aquaculture it is important to expand the technical knowledge and innovative practical experience of fishermen, through extension services relating to information and management.

In pond and intensive farming the production and market introduction of other fish species with good market opportunities should be encouraged by all means,. however the protection of the genetic material of the Hungarian carp breeds is not only an economical issue but also a social interest, since it is part of our national and cultural heritage.

The preventive measures and activities against fish epidemics should have a stressed importance, especially regarding the probable appearance of Koi-herpes virus. Although this virus does not mean any threat to humans, but the majority of the consumers would give up fish consumption after associating the Koi herpes virus to the human herpes virus, which can result in a decrease of fish consumption similarly to bird flu in poultry industry.

The most important elements of future aquaculture development can be summarised in the followings: improvement of human resources; expansion and quality improvement (reconstruction) of other necessary resources; restructuring; innovation and the production of high-quality products. The main objectives of the planned development are the establishment of diversified and the same time multi-functional fish farms, which doesn't have negative impact on the environment and which can offer job for people in rural areas. The role of sales on fish farms going directly to the consumers ("catch yourself") should also be emphasized, the most obvious form of which is providing angling facilities and relating fish selling.

4.1.2. Capture Fisheries in Natural Waters and Angling (SWOT Analysis)

Table 3. **SWOT analysis of the Hungarian capture fisheries in natural waters**

Strengths	Weaknesses
- Suitable climatic and hydrological conditions (Balaton, Danube and Tisza and the water system of these) - Traditions of fishery - Functional producers groups - Fishermen integrated in sales	- Risks of water quality - Unbalanced and seasonally insecure commodity stocks - Low level of catching technique (technical, information) - Selective fishing methods are not worked out and applied well enough - Low level of fish guarding (personnel, technical) - Insufficient data collecting and supplying

Opportunities	Threats
- Continuous expansion of recreational fish farming activity - Need for selective fishing in natural waters - Expansion of angling market	- Regulations of animal welfare, environment protection and nature conservation is getting stricter - Damage caused by birds is increasing - Aversions of angling society - Consumer' fear of fish exposed to pollution

Table 4. **SWOT analysis of the Hungarian angling**

Strengths	Weaknesses
- Suitable climatic and hydrological conditions (Balaton, Danube and Tisza and the water system of these) - All the water types are utilizable for angling - Significant social base, recreational significance - Good, effective organisational background - Well built background industry and equipment supply - Well operating data collecting system	- Although the guarding of angling waters works sufficiently in practise, sanctioning is too weak, it doesn't have enough retarding force - Presence of angling with the purpose of making living - Behaviour adverse to anglers' ethic
Opportunities	**Threats**
- Expansion of fish farming with angling purposes - Continuous expansion of fish farming activity with recreational purposes - Increasing the social base and recreational effectiveness - Development of angling tourism and all angling related services - Environment-conscious education - Need for selective fishing in natural waters - Expansion of angling market	- Low level of natural stocking - Deficiencies of the existing laws and the low effectiveness of the enforcement - Degradation of natural waters as aquatic habitats - Increasing lack of interest in younger generations in recreational sport as free time activity

Strengths:

One of the most important strengths is the excellent climatic and water conditions (Lake Balaton, Danube and Tisza Rivers and the water system of these), which is a good basis for carrying on with the fishing traditions that have a great past in Hungary. Another strength is the activity of those fishermen who formed producers' groups or other organisations in the field of marketing.

Weaknesses:

The most significant problems concerning this field can be connected to the degradation of the living habitats as a consequence of which the catches are reduced in absolute value and the proportion of fish species with higher value is also decreasing. The most important negative factors are the disappearing of spawning areas and "fish cradles", the sedimentation of waters, the unpredictable water pollutions and those constructions for water management, which didn't consider properly ecological criteria.

The estimation of catches coming from natural water fishing is very difficult, its quantity and distribution in time is highly depending on fishermen's luck, this way there are periodic difficulties in selling and storage. The possibilities of sales are also hindered by the fact that as a result of the "panic" caused by occasional pollutions, the sales of fish caught for food can be set back for several years, just like in other sectors (e.g. Beef sector and the BSE). A specific and typically Eastern-European problem concerning natural water fishing is the protection of private property and fish stocks.

Threats:

One of the major threats is –similarly to pond farming- the dynamic growth of fish-eating bird populations, of which cormorants are standing out both with the size of their population and their fish consumption. The other threat is the degradation of natural waters, which can become visible with the vanishing of natural spawning areas and fish cradles.

Opportunities:

Among the favourable tendencies determining the sector strategy the continuous popularity of angling as an active way to spend free-time can be stressed. The other positive fact that people who like and know water and aquatic environment (angling society for example) live a much more environment conscious life than the average, which has a great social benefit.

Conclusions:

We need to preserve selective natural water fishing, and also to take care of Hungarian fishing traditions and to renew the quality of worn out fishing devices. It is important to continuously improve selective fishing methods, so the innovative developments need to be supported. The solution for the problems concerning the protection of private property at water sides and water bodies should be found as soon as possible in a co-operation with the relevant organizations and authorities.

An additional requirement is to ensure a stressed role to Hungarian aquaculture in supplying fish in order to provide the optimal proportion –in an economic and ecologic point of view- of fish species living in natural waters.

4.1.3. Fish Processing and Marketing (SWOT Analysis)

Table 5. **SWOT analysis of the Hungarian fish processing sector and marketing**

Strengths	Weaknesses
- The range of processed products is expanding - Introduction of quality assurance systems (HACCP, ISO) - Traceability (from pond to plate) is possible in the case of big supermarket chains - Organic-fish processing - Functional marketing-communication program	- Low technical level in processing - Proportion of carp in pond production is too high - Dominance of primary processing - Low level of processing – low added value - Human resources of processing is coming mainly from fisheries, not from food industry - Lack of innovative approach - Weak position of producers against supermarkets - Lack of cooperation in the field of sales

Opportunities	Threats
- Slowly increasing demand - Increasing economical importance of public catering - Unexplored areas (white spots) of fish sales - Increasing demand for social programs relating to traditional fish dishes	- The export-import rate will shift even more towards import, which consists mainly of processed products - The additional cost of keeping the strict regulations of animal welfare and food safety - Strengthening of international competitors - Improper species names used in sales - Marine fish have advantage in the competition of "fish for frying" - Aversion of consumers for other species

Strengths:

Strength of the sub-sector is the quality assurance system they have introduced, and in the case of several companies, there is also a tracing system in operation. An additional strength is that the most important fish processing units are directly connected to the production so the intermediate trade can be eliminated.

Weaknesses:

The majority of the Hungarian fish processing plants have a poor product range and typically, the products with low added value are dominant. The utilization of capacity -except for a few plants- is low, and the same is true for the technical level, which means relatively high energy costs in almost all of the cases. The processing plants typically rarely apply the technologies and machines, which are used widespread in the neighbouring countries, and the use of manual workforce is determinant in every phase of the processing. Because of these factors, the production costs are very high, which is coupled with low added value.

The situation is made even worse by the fact that in many cases the level of effluent treatment is not sufficient and the costs of the investments made in order to solve this problem is hardly covered by the basic activity. The other important issue is the constant demand for developing the hygienic standard of fish processing plants, since the outer regulating environment and the food safety regulations demand this.

From the consumers' point of view it is a striking problem that the knowledge on Hungarian fish products is very low. The vast majority of consumers still do not know any other way to prepare fish dishes than the conventional ones (fish soup and fried fish). The importance of promotion in this field is priceless. The lack of high standard marketing work is apparent not only on country level but also on a regional level, for which all the local participants of the product chain are responsible.

Threats:

The most important threat is that the additional costs emerging in connection with the strict requirements of animal welfare and food safety will increase significantly, while wholesale and retail prices can not be increased proportionally.

Opportunities:

Among the opportunities we should emphasize that although primarily in urban areas but the demand for fish and fish products is increasing, and the popularity of relating culinary events (eg. fish soup contest, fish gastronomy festivals) is also continuously growing.

Conclusions:

The technical and technological modernisation and the improvement of hygienic standards of the Hungarian fish processing plants is essential, which should aim the production of safe fish products with high nutritional and added value. Furthermore, the formation of wide-scale product range and the introduction of those in the market should be encouraged and also the marketing efforts which try to keep them on the market.

At the technical development of the fish processing plants the treatment of effluents and elimination of hazardous wastes should get emphasized attention.

4.2. Problem Analysis and Challenges

The analysis of the problems of the sector was performed with the help of three problem-trees, according to the three sub-sectors: aquaculture (*Figure 6*), capture fisheries in natural waters (*Figure 7*) and fish processing and marketing (*Figure 8*).

The objectives drawn up later have been deduced from the identified problems.

Figure 6. **Problem tree of the Hungarian aquaculture sector**

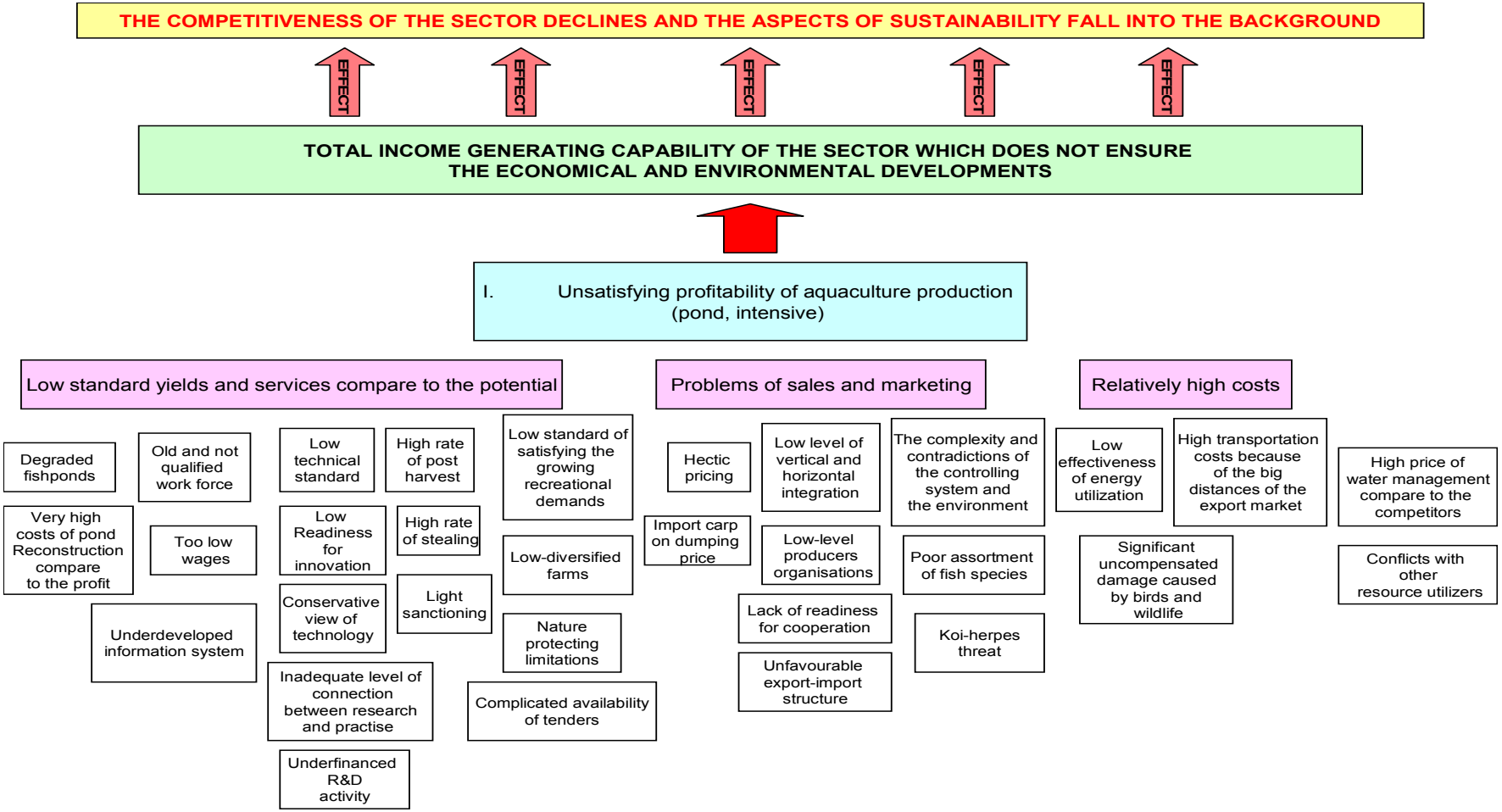


Figure 7. **Problem tree of the Hungarian inland fisheries**

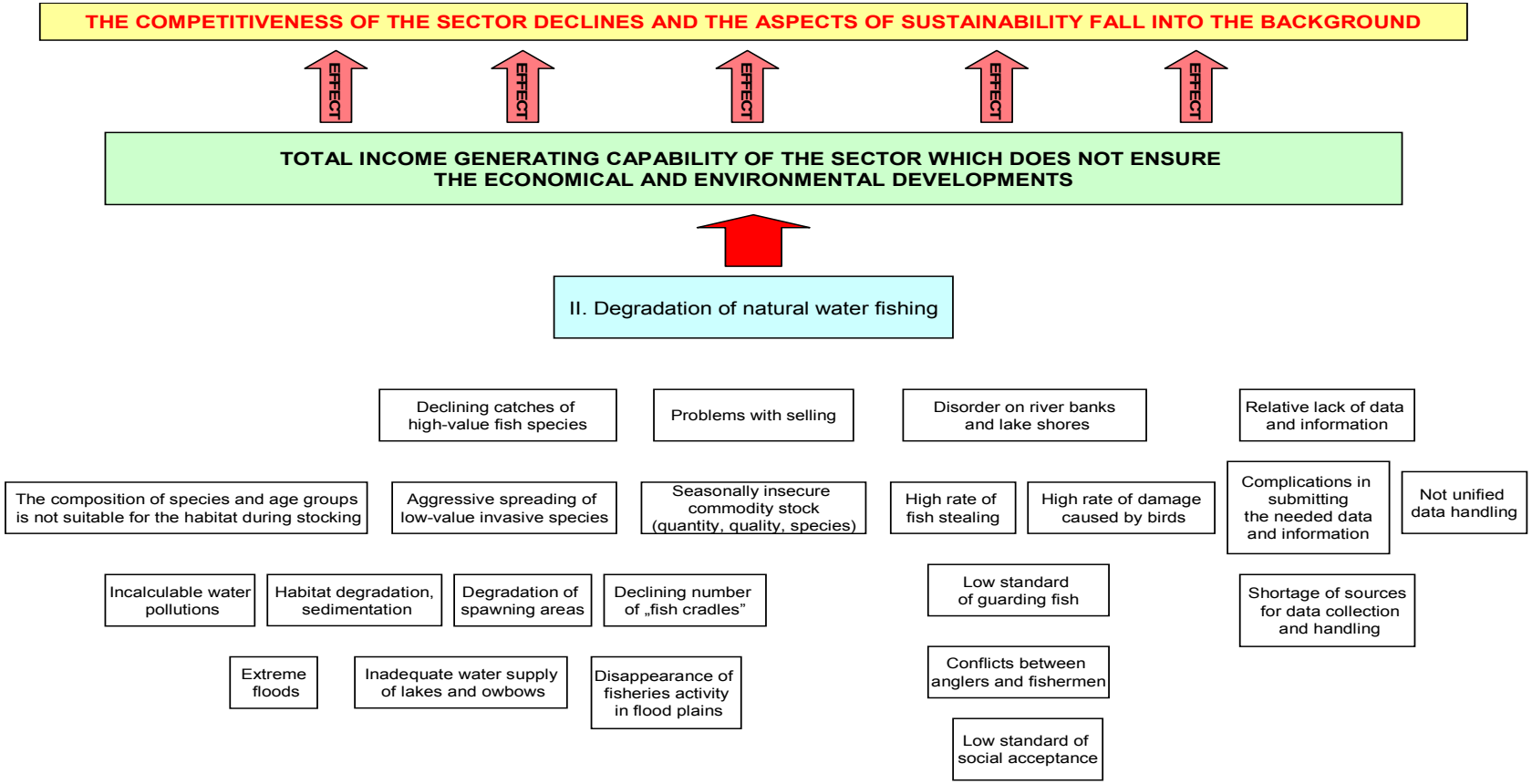
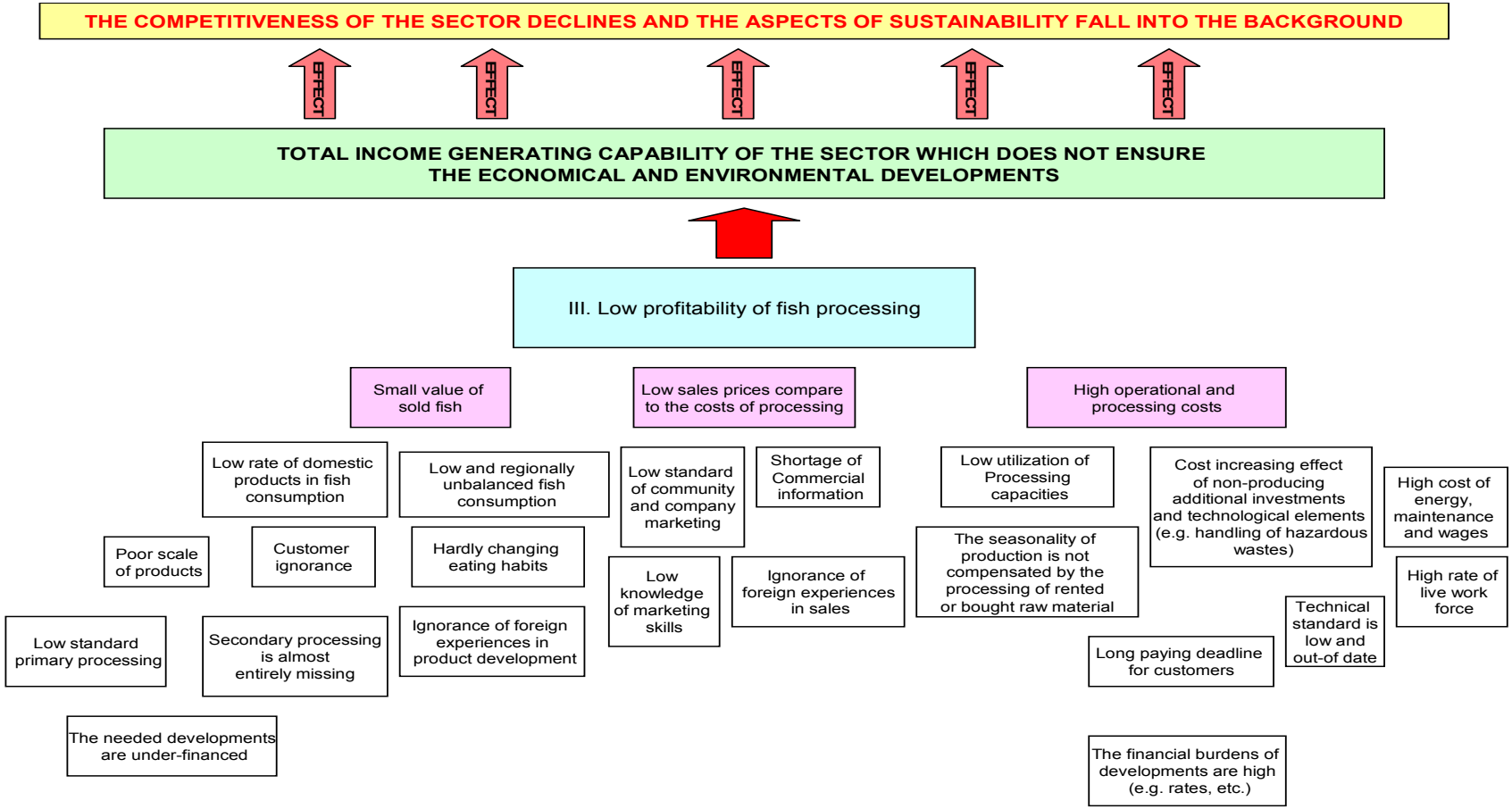


Figure 8. **Problem tree of the Hungarian fish processing sector and marketing**



4.2.1. Problems and Challenges in the Field of Aquaculture

One of the cardinal questions in the fisheries sector is the quality and price of water. Fish producers in the neighbouring countries – who are our competitors on the European and home market – do not have to pay the same magnitude for water relating costs as the ones in Hungary, so our profit- and price position is significantly weakened this way. In the future we should definitely move also in the direction of water saving technologies. In the case of intensive production systems especially the development of those farms should be emphasised, which use geothermal energy, even though the biggest barrier factor of utilising geothermal energy for fish production at the moment is the very high price of water and water treatment.

Water quality related problems generate many questions, with special regard to the fact that during joining the European Union Hungary has signed the Water Framework Directive, which was brought to life in 2000. The main point of this is that EU countries should bring their natural surface waters into good ecological condition in a short time, or they conserve the good ecological condition of these waters. In order to comply with the regulations of the directive it is definitely needed to make environment protection regulations stricter, which means additional expenditures and costs for the farmers.

It has already caused serious tensions earlier that the price of the water was completely independent from the quality. It is obvious that the farmer can use only that water which is supplied by the water provider company, but in practice it seems that the quality of waters arriving into pond farms is often not suitable for the quality requirements specified for fishpond use neither concerning the physical nor the chemical parameters. The main problem of the current regulation is that it does not have any provisions for those cases when the farm gets water with a quality where certain parameters are originally higher than the limiting value, and it is just let to flow through the system.

The basis of Hungarian pond fish production is common carp and this will not change on a medium term. As a result of genetical improvement during the last hundred years, carp varieties adopted to different conditions and production purposes have been certificated by state authorities. This carp varieties represent the most valuable genetical resources of the Hungarian aquaculture, which shall be protected in the future. It is important how much will we be able to shift the proportion of cultured species towards those fish species (catfish, pike perch, pike, tench) the selling of which has virtually no limitation on a short term. To form the correct structure of policulture which meets production-biological, ecological and economical criteria is a technical challenge for fishpond farmers.

One of the weak points of the sector is the low technical level: the general condition of earth structures, machines and technical devices. Comparing to other agricultural sectors the production is mechanised only in a lesser extent, so the technical effectiveness is very low.

Many of the Hungarian producers do not have fish storage facilities in suitable quality and capacity, as a result of which problems can occur in sales during the autumn harvesting, therefore they become defenceless against traders so they can sell their product only under the market price. This causes damage directly to the producer and indirectly to the whole sector, as the prices are “pushed” down so troubles can occur in the market. The expansion of storage capacity and quality in pond farms would reduce the sales under constraint significantly and it would handle the periodical surplus on the market.

The rich bird fauna and the mass of migrating species is a unique natural value of Hungary and Europe. The conservation of this diversified wildlife is a national interest. A different approach should get accepted, namely that the individual specimens of the protected species living around

fishponds are not pests, but elemental, inseparable natural values of the wildlife connected to aquatic habitats, the conservation of which is a basic interest for all of us. The bird species causing the biggest damage are cormorant, grey heron and white egret. In some regions of the country the loss of yield caused by protected and not protected birds can reach up to 20-30%. Besides these bird species, otter is another common fish eater in pond farms, which is an endangered mammal under strict protection. The complex management of the protection of aquatic species could be solved in the framework of an aquatic habitat conservation program –which does not exist at the moment- for protected birds and otters, organised similarly to the one made for bustard, corncrake or partridge.

The individual conservation of protected species living around fishponds can be realized on a longer term only if –by recognising and accepting the need of the protection of these species- the occurring material burdens are compensated both from EU and national financial resources, in other words if these costs are not covered only by the tenant or owner of the certain fishpond. In the future the mutual interdependence should be the principle determining the connection between fish farmers and nature conservation.

According to all these in order to achieve the highest level of secure production, the acquisition of those equipment should be supported in the framework of aquaculture subsidies, which would protect the fish producing areas from wild predators.

4.2.2. Problems and Challenges in the Field of Inland Fisheries and Angling

The main problems of this field are connected to the degradation of habitats, as a result of which the amount of catches is decreasing in absolute value, but also the proportion of more valuable fish species is getting less. The most important factors among those, which have a negative influence, are the disappearance of spawning areas and "fish cradles" and the silting up of waters.

The catch that coming from the inland water is very hard to calculate, the quantity and scheduling is highly depending on luck, so sometimes difficulties can occur concerning sales and storage. The possibilities of selling can also be made more difficult by the fact that the "panic" caused by occasional water pollution may hinder sales for years.

Another problem of the sector is that there is "disorder (mess and litter) on riverbanks", except for the intensive angling waters, and the extent of poaching is also very high. On the most significant fisheries water areas the standard and effectiveness of fish guarding is low. The legal procedures initiated as a result of fish stealing or infringement, are often weak and inefficient according to the present legal regulations. The relating laws should be aggravated and strict sanctions should be enforced, which have enough power to hold these actions back. The usage of forbidden fishing equipment should be reduced in order to avoid animal torture as a criminal act.

The most important challenge for commercial fisheries is the introduction of fishing methods which are selective and which cause the least disturbance and damage to environment and angling.

The other great challenge of the sector is to establish proper combination of fish populations, and to ensure their rehabilitation, conservation and to minimise or eliminate of invasive and foreign species stocks in certain areas.

4.2.3. Problems and challenges in the field of fish processing, consumption and marketing

The majority of Hungarian fish processing plants have a poor variety of products, and the added value is typically low. The utilisation of capacity is critically low, and the same stands for the

technical standard as well, which means relatively high energy costs in almost all of the cases. Hungarian farmers do not use technologies and machines, which are widespread in other countries, the use of human workforce is dominant in all the working phases of processing. Because of these factors the production costs are very high, accompanied by low added value.

The situation is made even worse by the fact that the standard of waste water treatment is not sufficient in most of the processing plants and the additional investments made to solve the problem can hardly be covered by the basic activity.

An outstanding problem from consumer side is that the knowledge on Hungarian fish products is very low. The majority of the consumers still do not know any way of preparing fish dishes other than the traditional ones. The importance of promotion is priceless in this field. The lack of high level marketing work is well marked not only on country level, but also on regional level, for which all the players of the product line are responsible.

A big challenge of the sector is that it seems probable that the amount imported processed fish products and fresh fish will increase. We should expect the growth of the amount and variety of marine fish and products on the local market. Although this means the increasing competition on the market of primarily processed fresh fish and processed products, however with the expansion of the variety of fish and fish products it also stimulates the increasing of fish consumption.

The trade collaboration of producers is not sufficient, as a result of which they became defenceless against other players of the market. All the producers try to sell their products on their own, so traders, angling clubs and big supermarket chains play them off against each other individually. A coordinated presence on the market (e.g. producer groups) would definitely ensure a much better negotiating position for the producers.

Producers with larger producing capacity have already realized the importance of continuous fish supply ("summer fish"), but there is still not enough fish in the summer season between May and August, which would mean not only summer profit for the producers but it would also reduce the dumping of the autumn and winter season. The demand for continuous fish supply has arisen only in the last 10 years. This had two reasons: one was the appearance of hypermarkets, which continuously need fish supply; the other was the strengthening of angling organisations. These organisations are not satisfied with only one stocking a year, they want to refresh the stock of their ponds continuously. In consequence of this, those producers who would like to keep their customers or who want to get into this special market have to be prepared for being able to provide fish continuously all year long.

4.2.4. Horizontal Problems and Challenges

4.2.4.1. Education, Research & Development, Extension

The Hungarian specialised secondary education in fisheries is stagnating. Less and less people choose this profession so the number of trained fishermen is continuously declining. Of course, this seriously affects production. Active fishermen will get too old while there is no replacement from the new generation. The biggest challenge is to organise the continuous post-graduate training of the workers of fisheries sector and the technical training of those coming from other fields.

It is also a challenging task for the sector to form the MSc. level gradual education and to ensure the successful accreditation of it, based on a close cooperation between higher education institutes.

Research institutes continuously develop their research values with strenuous work in various projects and by offering different services, but the very low level of research financing from the state is threatening the competitiveness on the international stage. There are efforts to strengthen the

partnership between research and practice and to transfer the research results into practice. However similarly to other regions of Europe, the under-financing of research & development, and extension and the low willingness for innovation from the side of small and medium size companies is a problem also in Hungary.

4.2.4.2. Food Safety and Quality

Fisheries sector has to face very similar challenges concerning food safety as all the other food producing sectors. All the risk factors during fish production or processing should be determined and reduced in order to ensure food, which keeps its favourable nutritional features, healthy, chemically and microbiologically impeccable and free of genetically modified organisms. However through the aquatic environment and the openness fish production is much more sensitive to the activity of other sectors and to natural processes and because of this certain processes of the production is very hard to control and keep it under controlled conditions. Industrial, agricultural and communal pollution can get into the water where fish are raised; these substances can accumulate in the sediment. In some cases their presence becomes visible only at the investigation of the end product. In the case of fish kept among intensive conditions certain components of the feed or medical products used during rearing can mean risk concerning food security, even if all the regulations are kept and the compulsory, regular checking is done.

Fish produced in compliance with the relevant regulations is one of the healthiest foods, which contains many nutrients (e.g. essential amino-acids, omega-3 fat acids, phosphorus, microelements) which are essential in the prevention of illnesses which occur frequently or too frequently in Hungary (e.g. heart and cardiovascular diseases, certain cancers, Alzheimer disease, etc.), and which are very important in protecting health in embryonic and infancy stages and in young age. There is a need for closer cooperation with physicians and dieticians in order to provide more information to the consumers. The evolving and marketing of fish as functional food seems to be a new direction of development.

The differences emerging between certain regions of the country concerning fish consumption should be investigated based on quality parameters. Stable quality and the continuous tracing of the products would result in healthy animals with good slaughtering value and uniform size, which is essential for successful market competition.

4.2.4.3. Animal Welfare and Animal Health

In order to ensure good physical condition for the fish good quality water is needed, which has high oxygen content, free of polluting substances and the level of metabolism products is low. The rearing conditions are often not suitable for the natural demands of the fish. The management (human handling) in many cases does not take the needs of animal welfare into consideration. During the elaboration and implementation of a fish rearing technology the “fish kept in good conditions will result in good quality products” principle should be followed.

The strategy for the period between 2007-2013 can be realized only if there are no extreme difficulties in fish production. A basic precondition of the realization is to avoid epidemics and the damages caused by them. The Hungarian pond farming is threatened mainly by two viruses: the virus causing the spring viremia of carps (SVCV) and Koi-herpes virus (KHV). Against the disease caused by SVCV Hungary has protected itself for more than 40 years. KHV is a disease appeared recently, and it has reached Central Europe. In order to reduce SVCV as much as possible and to avoid the entering of KHV into Hungary and if appears to control it national programs should be

elaborated and started. If these programs were accepted, the co-financed subsidisation of the examinations would be possible, according to Council Decision 90/424/EEC and Directive 2006/88/EC. For the realization of this task, a financial frame would be determined based on the estimated annual costs of the examinations.

5. PRIORITIES OF THE SECTOR, DIRECTIONS OF THE DEVELOPMENT

5.1. Fish Farming and Processing

Fallen behind many European countries, the integration of production, processing and trading in the Hungarian fisheries sector still did not become common. However, the development is definitely pointing to the direction of improving the competitiveness against import fish and "non-fish" foods, high-level satisfaction of customer demands, making connections closer between producers, processors and traders. In order to make further progress in the above, horizontal and vertical integration is needed. From the aspect of competitiveness this is a very important task to move forward.

The medium term aims of the sector concerning *production* and inland fisheries are summarised below:

- The technical basis of production should be expanded and modernised in the following period that includes 1,000 ha new fishpond; reconstruction and modernisation of 4,000 ha fishpond and the relating facilities and infrastructure.
- The general living conditions of fish should be improved in natural waters.
- The number of multi-functional farms (fish production, nature conservation, eco-tourism, angling tourism) should be increased, parallel to this fisheries services should develop and production should be demonstrated as many places as possible (e.g. harvesting shows for the public). Integrated pond production should be introduced, as many places as possible and it should be in harmony with the given agro-ecosystem.
- Pond fish production should become more mechanised and parallel to this the use of living work force should decrease, especially in the case of difficult manual works.
- The application of exploited but not used geothermal energy for fish production should take place at more locations. The amount of fish coming from intensive production should increase, including not only the expansion of African catfish production, but also that of other species (e.g. tilapia, sturgeons). By 2013 the expansion of production should be based on a capacity increase, which should reach a magnitude of 700 tons/year.
- The utilisation of alternative energy resources (geothermal water, etc.) replacing partly or entirely fossil energy should widen.
- Fish farming should get emphasised attention during the developments relating to flood protection (e.g. fisheries use of flood water reservoirs).
- The discipline regarding providing statistical data should improve among producers and traders.

One of the cardinal questions of the sector is the low processing level of the produced fish. At the moment only about 10-15% of the domestically produced fish is processed among industrial conditions where the added value is generally very low. It is very important to achieve that the products leaving the processing plants are highly processed so they have a high added value. It is obvious that modernisation and product development is needed for the processors, which requires financial support

The medium term objectives of the sector regarding fish processing are summarised below:

- As big part of the domestic fish production as possible should be processed and supplied primarily to the Hungarian consumers, and secondly for export.

- The added value of the processed product should increase, but only in an extent which is acknowledged by the market in the prices.
- Fish processing plants should produce safe food, and this should be traceable through the whole product line and documented.
- The number of female employees should increase in the processing sub-sector.

In case of the employees the employment of men, women and disabled persons is a stressed priority in the development strategy of the European Union. However we must point out that fishing and fish production has been traditionally built on the employment of men for several thousand years, and they had to do hard physical job in hard circumstances. Nowadays and in the future a higher level of employment of women is possible in intensive production and processing in addition to aquaculture relating administration.

5.2. Animal Welfare

During fish production conditions not only for the growth and for health of the fish but also for the protection of the animal and environment should be ensured:

- The water supply should be calculated in compliance with the stocking density, and the stocking density should be limited to an extent where proper oxygen supply can be ensured for the cultivated fish species. Special attention should be given to the aeration of the rearing units in the production facilities.
- For the water supply of intensive fish rearing systems back up equipment are required. In case of power cuts the availability of automatic generators, back up pumps and emergency aeration systems is useful.
- The propagation in the hatcheries should be done by employees who have the proper qualification and experience.
- The fishing tools and methods applied during the autumn, early-winter harvesting should be gentle with the fish and the stress caused by them should be reduced to the minimum. The stress originating from the high stocking density and disturbance in the summer season can be particularly serious, so the above-mentioned aspects should have special attention.
- During transportation the tanks applied should have the proper volume and water quantity inside, which is in accordance with the mass of the transported fish, and the aeration, should be ensured with the proper air distributors.
- Animals should be anaesthetised before killing, and the killing should be done primarily by bleeding them to death.

5.3. Consumption and Market

Hungarian fish consumption is very low compared to other parts of the world or Europe. Hungarians eat around 4.7 kg/capita fish referred to live weight, which does not even reach one quarter of the EU average, so Hungary stays at the last place in the European Union. We would like to increase Hungarian fish consumption to 6.0 kg/capita (on live weight basis) within five years. This can happen only if the general living standard improves, healthy feeding gets more attention, fish products become easy available and the quality and quantity standards of processed fish products continue to increase. However, it is expectable that the increasing of the consumption level

will happen primarily because of the increasing of the trade of import sea fish products. The most important objectives and priorities in the field of fish consumption and trade are the followings:

- To reach the 6 kg/capita (in live weight) annual fish consumption is a medium term objective of the sector, but an even higher value would be preferable from a nutrition physiological point of view, the achievement of which is expectable only on a long run. According to future plans at least 20% of the desired amount should be provided by domestic production.
- It is also essential for the sector to target the formation of a stable and predictable internal market, which would serve as the base of the long-term maintenance of our export position.
- To make high quality fish and fish products available (e.g. by the use of mobile fish selling units) for rural areas, primarily smaller towns.
- To expand our export and within that to increase the proportion of processed products, carnivorous fish and the native and protected fish species for stocking natural waters.
- To form well functioning production groups in the sector, which do the sales and the primary processing of the commodity stock produced by the members in cooperation.

Table 6. **The fish consumption per capita and its breakdown by product type**

Unit: kg/capita/year

Years	Fish consumption	According to product type		
		Live, fresh or chilled	Frozen	Canned
2002	**3,14**	1,77	0,59	0,78
2003	**3,23**	1,62	0,75	0,86
2004	**3,60**	1,86	0,85	0,89
2005	**3,72**	2,05	0,80	0,87
2006	**3,96**	2,11	0,88	0,97

Data in Table 6. were calculated by applying the “mixed” calculating method. The point of this method is that processed products for sold in foreign trade as human food are given in net weight, while the products of the Hungarian production are in live weight. As the calculation of fish consumption per capita has been done using this method in Hungary for several decades, these data reflect the changes quite well. Another matter that in the international practice the method during which all the products are calculated in live weight is more commonly used. The consumption data also contain those fisheries products, which are not made of finfish. For this reason we should note, that the data of total consumption for the year 2005 corrected by the EU to live fish would be 4.4 kg instead of 3.72 kg. Data have been determined according to the data published by the Agricultural Economics Research Institute, the National Fisheries Database and the Hungarian Central Statistical Office.

Fish production should also face the danger that, similarly to other food producing sectors, different effects may occur, which cause drastic changes in the sector in a very short time. Damages can have two direct causes, which can occur simultaneously:

- Serious loss of consumer trust because of real or supposed food safety risks (see poultry sector and bird flu);
- External effects threatening the production directly (disease, pollution);

The response of the sector to these effects can be the following: in accordance with NFSPH, the preventive measures are treated as priorities of the subsidising programs both regarding the production and the marketing sector.

5.4. Food Safety

In order to produce fish products that are healthy and meet food safety standards the following objectives should be realised:

- The water supply of fishponds and fish rearing systems should be free of toxic materials. If this cannot be achieved, the toxic level should be lower than the maximum allowable concentration in order to prevent the harmful accumulation of persistent pollutants.
- The natural food production and the supplementary feeding should be synchronised in ponds, and appropriate feed and feeding methods used in intensive systems in order to produce high quality food and minimise environment impact.
- Those production technologies should be developed and applied, with which the production of materials reducing the consumer value by spoiling the smell or the taste of the product (off flavour) is minimal.

5.5. Education

Since the theoretical and practical results of the Hungarian fish farming are internationally known and acknowledged, the collected knowledge should be "exported" on a greater scale to those countries where there is demand for that.

Hungarian fish farmers are suffering a lack of experts qualified on medium-level, so the demand for saving and improving this form of education is becoming bigger and bigger.

There is also an increasing demand for post-graduate training, so our aim is to organise continuous training on medium- and higher-level as well.

5.6. Research & development

The institutional background of research and development, which helps the development of the Hungarian fisheries sector has strengthened after joining the EU. Hungarian research institutes can apply for EU research projects with the equal conditions to all the other institutes from EU member states, and there are several running programs financed by the EU (e.g. Eurocarp, Aquamax, SustainAqua), which are aiming to solve specific problems in international cooperation. Hungarian research institutes are becoming integral part of the European Research Area. The other important objective is to encourage the timely application of the research results. It should be noted, that there are no research areas among the research priorities of the EU, which can be connected to aquaculture business development directly, however the application of research results in the field of environment protection and food safety helps the improvement of the competitiveness of the fisheries sector.

The Hungarian R&D activity should contribute in a bigger extent to the significant development of the processing background and the technical standards, which are rather poor in a European comparison.

The execution of specific research programs which aim to help the utilisation of the comparative advantages of Hungarian fishery sector and which take all the Hungarian specialities into consideration should be an emphasised task of the Hungarian research institutes, with special regard to the followings:

- research work on genetic selection to improve the quality of Hungarian carp;
- development of environment friendly animal health management technologies, chemical- and medicine-free animal breeding;
- the preservation of Hungarian carp varieties with live and cryo-preserved gene banks;
- the development of ecological pond farming (e.g. water saving and environment friendly pond systems; policulture technologies; organic fish production technologies);
- development of intensive systems and production technologies using geothermal energy (e.g. energy saving recirculating systems; effluent treatment; introducing new valuable species in the production);
- the development and protection of capture fisheries resources in Hungarian natural water areas;
- the support of the breeding of native endangered species;
- support of innovative developments.

During the planning of research activities, it should be taken into consideration that it is also a task of research work to provide scientific basis for the working out of laws and regulations that regulate fishery activities.

Hungarian research activity - through its wide international relations - should help the development of the international co-operations of Hungarian fishery in the future as well, and also strengthening the role of fishery development in international development cooperation projects for developing countries.

5.7. Water Management, Environment and Nature

In the handling of conflicts between fish producers and organisations of water management, environment protection and nature conservation there are many cases when the interests of fish producers coincide with the interests of one or another organisation. These connecting points should definitely be explored, and taken into the service of the development of the sector.

In general the environment protection and nature conservation related expenditures have negative impact on profitability; therefore without a proper motivating system the producers try to avoid them. For this reason we believe it is very important that we should find those common denominators with environment protection and nature conservation, which are acceptable for all parties and which contribute to minimise the conflicts. The ongoing Agricultural Environment Management Program alleviated the situation greatly and its positive results are unquestionable. Therefore, the continuation of this specific agricultural environmental measure for pond fish farming is justified.

The medium-term objectives of the sector concerning environment protection and nature conservation are summarised below:

- In the field of water supply (in terms of quantity and quality) there should be a cooperation with water- and environment authorities in order to increase the amount of stored water in flood-free periods for the maintenance of aquatic habitats and the proper level of ground

water, and to make it possible to reduce the regular atmospheric drought. The storage capacity of fishponds is an important element of the water management of the Carpathian basin especially in the light of the global climate change.

- It should be achieved that a proper water flow meter is operated in every farm, and producers should be encouraged to introduce water saving technologies.
- In most of Hungary the reasonable conversion of land usage is needed, besides looking for new land utilization forms and the determination of regional priorities (conversion of land usage forms in flood threatened areas, restoration of environment friendly farming systems).
- Water authorities should acknowledge that the extensive fish ponds –in a different way though from farm to farm- are satisfying ecological water demand, which is needed to preserve aquatic habitats, and this is not only the interest of the fish farms, but also the interest of nature conservation.
- The development and use of on-farm water treatment and effluent treatment should be encouraged.
- In natural water management special emphasis should be given to the establishment and maintenance of spawning grounds and so called fish cradles especially in closed backwaters.
- During the complex rehabilitation of closed backwaters water authorities should collaborate with fishery managers and the program should get financial support from the state.
- The future fishery experts should get basic knowledge on ecology, environment protection and nature conservation on every level of education, to make them equal partners in debates with the experts of the relevant authorities.

However, besides pond fish culture there are some other forms of aquaculture in Hungary which play an important role in fish production even at the moment, but their significance will be expected to grow in the future. These systems are in controlled connection with the natural environment:

- intensive flow through systems using surface or geothermal water;
- pond recirculation systems doing intensive rearing.

These aquaculture systems can also work in a way that they produce socially important natural values (e.g. wetland for effluent treatment). The creation of such natural values attached to the operation of special aquaculture systems should also be entitled for support from the European Fisheries Fund (EEF).

6. THE OBJECTIVES OF THE NATIONAL FISHERIES STRATEGIC PLAN

The National Fisheries Strategic Plan of Hungary contains the ideas for the whole of the Hungarian fisheries sector in line with the Common Fisheries Policy.

The first pillar (I.) of the strategy had been drawn up before the joining of Hungary to the EU, and it is also a specified objective in the FIFG for the period of 2004-2006, according to which our fish consumption which is very low compare to the EU- or world average should be increased.

This goal can be achieved through encouraging the demand for fish, and to meet the increased demand mainly by the supply of locally made products besides the increasing import. This however, calls for the development of processing and also for product development. We would also like to achieve the growth of demand with promotions encouraging fish consumption, and the increasing of production mainly with pond re-constructions and partly with constructions of new ponds, with infrastructure development, expansion and modernisation of intensive farms, building new processing plants and with the better use of processing capacity.

The second pillar (II.) of the strategy is the conservation of the productivity and biodiversity of our natural waters besides satisfying the growing demand for recreation, and the preservation of the traditions of capture fisheries in natural waters by supporting those who make living of it.

It should be considered as a fact that during creating and maintaining water related natural values the role of fishponds is outstanding. In the conservation of natural values, which can be connected to fishpond ecosystems the good pond farming practice is the basic issue. An important element of the strategy is the monitoring of sustainability of the quality and quantity of fish stocks, the scientific foundation of the required interventions through supporting the relationship between the stakeholders of the sector and those institutions which do fisheries research. This refers to the innovative developments in the field of fish farming as well.

In the field of aquaculture and fish processing investments should give guarantee for food safety, animal health and welfare and should also consider impacts on the environment.

The above mentioned objectives are completely in conforming to the Common Fisheries Policy (CFP) and other Community objectives, according to which:

- Fields of development giving the biggest added value should get a stressed importance, and the competitive and market orientated production and the modification of the structure needed for that should be supported;
- Sustainable development should be encouraged (Göteborg Agreement, Kyoto Protocol);
- The growth of competitiveness, the keeping and increasing of employment (Lisboa Agreement) should be ensured.

With taking the above-mentioned factors into consideration, the objectives of NFSPH have been drawn up as the following:

GLOBAL OBJECTIVES:

0.1.	Ensuring the sustainable economic, environmental and social development of the Hungarian fisheries sector.
0.2.	Ensure the international competitiveness of the Hungarian fisheries sector.
0.3.	Maintaining the ability of the Hungarian fisheries sector to adapt global challenges.

GENERAL OBJECTIVES:

1.1.	Encouraging healthy feeding for the Hungarian population by producing good quality, healthy fish.
1.2.	Ensuring the long-term sustainability and competitiveness of aquaculture.
1.3.	Ensuring the long-term sustainability and competitiveness of natural water fisheries in order to maintain the optimal biological state of natural waters and the livelihood of fishermen.
1.4.	Increasing the level of Hungarian fish consumption and facilitate healthy human nourishment this way by producing and marketing healthy fish products with high biological value.
1.5.	Improving the competitiveness of the processing sector.
1.6.	Ensuring the long-term sustainability of the Hungarian fisheries sector based on the activity of producers organisations and R&D activities realized in the framework of collective actions.
1.7.	Increasing the domestic fish consumption and ensuring the harmony between supply and demand.
1.8.	Ensuring the competitiveness of Hungarian fish products on the market.
1.9.	Improving the competitiveness of the Hungarian fisheries sector based on the practical application of national and international research results.
1.10.	Ensuring good health conditions for the domestic fish fauna.
1.11.	Ensuring the protection of domestic fish gene pools.
1.12.	Supporting the growing role of angling as a recreational activity.

SPECIFIC OBJECTIVES:

1.1.1.	Ensuring the production base and appropriate conditions for safe fish production.
1.2.1.	Laying the foundations of a structural change in the sector and multi-functional fish farming, this is responding to the challenges of the ever-changing economical and social environment.
1.2.2.	Increasing the productivity and effectiveness taking the environment protection aspects into consideration primarily by improving the technical and technological standard in aquaculture.
1.2.3.	Expanding the possibilities of multi-functional fish farming.
1.2.4.	Expanding the possibilities of direct sales in fish farms.
1.2.5.	Maintaining work places and improving the working and safety conditions and salary of the employees of aquaculture sector.
1.3.1.	Increasing the salaries and preserving the work places of natural water fishermen.
1.3.2.	Conservation of fishing traditions and renovation and development of fishing gears –

	without quantity expansion.
1.3.3.	Slowing down the degradation of natural aquatic habitats, restocking indigenous species and reducing the overpopulation of invasive fish species.
1.4.1.	Increasing the product scale and added value of the processed fish products.
1.5.1.	Increasing productivity and effectiveness in processing primarily through improving the technical and technological standard.
1.5.2.	Improving the hygienic and work conditions and also the salary of the employees in processing plants and reducing the impact on the environment.
1.6.1.	Ensuring the sustainable utilization and protection of fisheries resources.
1.6.2.	Ensuring and improving the market transparency, quality, food safety and traceability of aquaculture products.
1.6.3.	Developing technical skills and encouraging partnership based on common programs between researchers and the fisheries sector.
1.6.4.	Improving the standards of producers' organisations and increasing their number.
1.7.1.	Increasing the effectiveness of community-level marketing actions, which are based on market surveys and analysis.
1.7.2.	Increasing the social acceptance of fisheries sector.
1.8.1.	Introduction of other freshwater fish species on the domestic market.
1.8.2.	Increasing the quality standard of all the products of the fisheries sector.
1.8.3.	Increasing the consumption of organic fish coming from domestic production.
1.8.4.	Developing the export market possibilities of domestic producers improving their international connections and acknowledgement.
1.9.1.	Spreading production technologies and methods with more economical and biological effectiveness and less environmental impact.
1.9.2.	Laying down the scientific foundations of the diversification and multi-functionality of fish production.
1.10.1.	Prevention of diseases and epidemics causing extreme economical and environmental damages.

OPERATIONAL OBJECTIVES:

Operational objectives –which appear in the Fisheries Operational Program for Hungary as concrete measures-, refer to mainly the followings:

- Technological and technical modernisation of the pond farms, hatcheries and related equipment;
- Building, reconstructing and modernising of intensive fish production systems;
- Developing the processing, marketing and promotion of fisheries products;
- Encouraging the creation and operation of producers' organisations;
- Encouraging developments aiming the production of organic fish;
- Modernising and expanding the system of reliable data collection and processing;
- Applying the results of research & development in the practice.

1.1. **1.2.**	○ Construction and value added reconstruction of fishponds, wintering/storage ponds and tanks; construction and reconstruction of dikes, ponds, fish harvesting pits, inlet- and outlet channels, water control structures ○ Buying the land where fishponds and fisheries plants can be built ○ Construction, reconstruction and modernization of intensive fish production plants utilizing geothermal or other alternative energy ○ Building, reconstructing and modernizing fish hatcheries ○ Obtaining special machinery and tools used only for fish production ○ Obtaining special vehicles and equipment that can be used only for transporting live fish; ○ Investments improving social and working conditions realized in the working place ○ Development of farm infrastructure, including the construction and reconstruction of road systems and the protection of private property ○ Investments to decrease environmental impact ○ Investments in connection with the standards of Community law ○ Establishing the infrastructure of direct sales in fish farms
1.3.	○ Obtaining and renewing fishing gears (including fishing boats, engines and storage facilities in which the caught fish can be kept safely) except for catching gears ○ Renewing, manufacturing, purchasing and demonstrating traditional fishing gears (in fishery museums for instance) ○ Providing safe working conditions ○ Manufacturing and purchasing equipment for the improvement of spawning conditions.
1.4. **1.5.**	○ Developing and producing new product families ○ Building, reconstructing and modernising fish processing plants taking into consideration all the aspects of environment protection, animal welfare, food safety and hygiene ○ Investments which aim the improvement of working, hygienic and sanitary conditions and the decreasing of environmental impact
1.6.	○ Research aiming at the sustainable utilization of resources and development and testing innovative technologies which are based on the results of those ○ Creating the network of Fisheries Cooperation Knowledge and Technology Transfer, through which the followings can be uniformly realized: ▪ Creating specific information database in order to improve the market transparency of aquaculture products ▪ Providing specific information to the players of fishery sector in order to develop their technical skill ▪ Launching common programs and projects in the framework of partnership between the players of research sphere and fishery sector ○ R&D activity aiming at the improvement of the quality and food safety of aquaculture products, developing and testing tracing systems ○ Establishment of producers' organisations in accordance with EC regulation 104/2000
1.7. **1.8.**	○ Conducting market surveys and analysis ○ Actions encouraging the consumption of fishery and aquaculture products ○ Actions and campaigns aiming at the improvement of the image of the sector

	o Laying the foundations of new quality categories and quality certificates based on appropriate policy o The analysis of the introduction of other freshwater species in the market o Development of quality certificates, product labelling, trademarks, standards o Organising regional, national and international promotion campaigns o Participation in trade exhibitions and fairs o Promotion of organic fish (in accordance with regulation 2092/91/EEC)
1.9.	o Technical, technological and economical analysis of the practical application of results coming from fish farming related researches o Technology transfer in fishery and fish production o Elaboration and analysis of fishery and fish production technologies with reduced environmental impact o Technological and economical analysis of alternative pond farming and aquaculture
1.10.	o Registering parasites causing epidemics and organizing the prevention and protection against them.

6.1. The Desirable State of the Sector in 2013

As a result of the execution of the National Fisheries Strategy we expect that the fisheries sector supported by the government and acknowledged by the society will become a special sector of the Hungarian food industry, which besides its food producing function will contribute to the maintenance of biodiversity, to the satisfaction of water related recreational demands, to a more effective water management, to raising the value of the natural environment and landscape, to improving life quality in rural areas and to the preservation of traditions and cultural values.

These functions are already present in pond production, which gives the determinant part of Hungarian fisheries sector, but their practical and well-proportioned integration into pond farming as widely as possible would be favourable, as well as the social and political acknowledgement of the specialities and multi-functionality of pond farming. The basic condition of the economical sustainability of the sector is the harmonisation and organisation of the producing and trading activities.

We did not give precise short-, mid- and long-term deadlines for the achievement of the objectives of the National Fisheries Strategic Plan, since the overlapping of the procedures and programs makes them highly dependent on each other. According to our opinion, the achievement of the objectives –because of rule "n+2"- would be desirable by 2015.

To supply the domestic market with fresh fish products will be an emphasised task of fish production. Those products which are produced with environment friendly technologies and which are classified as organic will have a distinguished role among the products coming from pond farms. Pond farms, besides food production, will produce different fish species to satisfy the demands of angling and to stock natural waters (including protected and endangered species), aquariums and ornamental ponds. At the same time pond farms will offer different services (ecological, water management, tourism), depending on their capabilities, with which they increase the economical sustainability of the farm.

Therefore, at the development of fishpond production the aim is not only to increase the volume of production and the size of production area, but also to diversify pond farming, to make this activity multi-faceted. The change in the structure of Hungarian pond production will take a longer time, however the following period will be determinant in creating the basis of multi-functional pond farming and stabilising it. The structural change needs innovation and investment, but a supporting "political, institutional and social environment" is also needed. Pond farms should in the first place concentrate on the satisfaction of domestic demands. The increasing consumer expectations (quality and food security) should be answered with the application of Good Fish Farm Management Practice, with qualified products and technologies and by ensuring traceability.

Intensive fish production should still be based on the reasonable utilisation of geothermal energy, but the supplying of the domestic market with fresh fish is primary task in this case as well. However, intensive farms should utilise their ability to produce special products, such as exotic species (not certainly fish) and caviar, more effectively. Although multi-functional utilisation is more limited during operating intensive farms, the production of ornamental fish, demonstrational and educational activities offered as a services and combining intensive systems with pond farms open up new prospects, which can improve the sustainability of this fish producing method.

In the case of natural waters recreation comes to the front. Angling and the income increased by it makes the restocking of natural waters possible and the standard and effectiveness of fish guarding can be increased this way, especially in the case of non-profit farming. Fish faming will get in line with the interests of environment protection and recreation. The need of fishery in these waters is justified by stock management (rarefaction of extraneous or overpopulated species), salvage of stocks being crowded out after floods and researching-surveying fishing. As a result the number of invasive species will drop, while the population of native species can increase. Processing is still a critical element of aquaculture competitiveness, without the quality improvement of which the sustainability of the sector can be endangered. Fish processing is not part of the production, it is a separate industrial branch. Processing technology and product development require experts in food industry and special technical background.

Because of the small size of the sector the domestic manufacturing of fisheries equipment, devices and medicines will not take place, but the Hungarian fish feed production can satisfy the home demands concerning both quantity and quality, however a continuous development is needed because of the increased quality requirements. The veterinary services (including early warning systems) will be done by domestic organisations.

6.2. Fitting of NFSPH to the Common Fisheries Policy (CFP)

A special segment of the European fisheries industry (regulated by the Common Fisheries Policy (CFP) of the EU) is aquaculture, which has an individual strategy accepted by the European Parliament (COM (2002) 511). The "Strategy of the Sustainable Development of European Aquaculture" is lying on three basic pillars, according to the following:

- Encouraging economic viability;
- Guaranteeing food safety, animal health and welfare;
- Addressing environmental effects.

The Hungarian National Fisheries Strategy Plan is in perfect harmony with the Common Fisheries Policy and the Strategy of the Sustainable Development of European Aquaculture, which is well reflected by the main objectives listed below:

- providing secure and healthy food for the population, in order to increase fish consumption and improve the structure of food supply;
- developing environment friendly and water saving fish producing technologies, which also meet animal welfare criteria;
- ensuring the competitiveness of fish producers on the domestic and EU markets, and the promotion of the sustainability of the sector for future generations;
- contribution to the improvement of the ecology and fisheries management of natural waters with stock control and restocking, with special regard to the demands of angling;
- contribution to the improvement of the life quality and employment of rural population and to the preservation of fishing traditions.

The reliable basis for the realisation of the harmony with the issues of the Common Fisheries Policy and the Strategy of the Sustainable Development of European Aquaculture is given by the fact that the base of Hungarian fish production is the extensive and semi-intensive pond farming, which has very long tradition. This farming method is a traditional aquaculture activity, which includes the improvement of the environment, natural resources, genetic diversity and the maintenance of the landscape and aquaculture areas. At the same time aquaculture offers excellent conditions for participating in environmental management and controlling systems and for the introduction of organic aquaculture.

6.3. Sustainable Development of Aquaculture

In Hungary pond fish production is dominant, in the frame of which farmers normally apply traditional extensive and semi-intensive technologies. These technologies are basically suitable for the criteria of environmental sustainability, since in the fishponds (built in areas which are not or just less suitable for agricultural purposes) the farming activity is done under natural conditions rearing mainly native fish species on natural food base. The environmental sustainability can be increased even more by utilising the possibilities granted by EAFRD and EFF, by improving the technical standards of pond farms and by controlling the interactions between fish farming and the natural environment.

However, the quality development of Hungarian aquaculture can be realised mainly through increasing the economical and social sustainability of pond farming.

A good way to increase the economical sustainability is the diversification of fish species and the relating technologies, and the utilisation of the possibilities given by multi-functional farming. Pond farming is still profitable at the moment, but the burdens due to expected ecological and social services (preserving the stock of protected species, water and landscape management, ensuring animal welfare criteria, etc.) are getting bigger and the relating costs are covered by the farmers. To increase the amount of processed fish, to improve the standards of processing and the quality development of the organisation of sales and production are cardinal questions concerning the economical sustainability of pond farming.

Social sustainability has basically two dimensions, one is the social acceptance of this farming method by those who are not direct stakeholders of aquaculture, the other one is to hand over

farming to the future generations, in other words to make pond farming attractive as a business activity. The first can be greatly helped by the spreading of multi-functionality, while the latter is in close relation with economical sustainability. In order to achieve social acceptance for the Hungarian aquaculture sector the marketing communication program coordinated by the National Fish Producers Association should be continued, as well as the communication with stakeholders, which is also inspired by the EU project called Consensus.

6.4. Linkages and Demarcation to other Community Policies and Programs

The strategy of aquaculture development is basically linked to the Common Agricultural Policy (CAP), the aim of which is to closing up rural areas. The strategy of aquaculture development is in harmony with the EU priorities of rural development, which are the followings:

- improving the competitiveness of agricultural and forestry;
- improving the conditions of the environment and the rural areas;
- improving the life quality in rural areas and encouraging diversification;
- developing the local capacity for the sake of employment and diversification.

The competitiveness of aquaculture can be improved with measures, which are basically the same as the ones in agriculture and forestry sector (information transfer, human resource development, innovation, capital investment). Taking this into consideration the common or coordinated execution of these measures and the exchange of experience would be favourable. However, it should be noted that in the case of Hungarian aquaculture sector there is no need for such a large change in the structure as in the agriculture. Since majority of fish production in Hungary is based on extensíve fish ponds, it is essential that they would continue to receive support from agricultural sources as well.

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Aquaculture and especially pond farming are in close relation with those programs aiming the improvement of the conditions of the environment and rural areas, ensuring the maintenance of Natura 2000 network, the execution of the obligations taken in Goteborg in connection with biological diversification and the implementation of the objectives of Water Framework Directive and Kyoto Protocol.

The provisions relating to payments of agricultural environment protection contribute to the obligations taken on in Goteborg in connection with the reversion of the declining biological diversity by 2010, and to the realization of the objectives of the Water Framework Directive. From the aspect of biodiversity the conservation of extensive farming has a significant role in the protection of the habitats of protected and endangered bird and mammal species.

Aquaculture contributes to the improvement of life quality in rural areas and to the encouragement of diversification with its own special tools (employment, improving the conditions of recreational fishing and tourism, etc.), but in certain cases there are also good possibilities in the integration of agriculture, forestry and aquaculture. The building up of the local capacity in order to provide employment and diversification would basically contribute to the improvement of rural life quality.

The most important coherences of the NFSPH- and EFF-based Operational Program for Fisheries (OPF) apply to the measures of the Operational Programs financed by the structural funds, and the New Hungary Rural Development Program (Hungarian acronym: UMVP) financed by the European Fund for Agriculture and Rural Development (EAFRD).

The operational programs for the period between 2007-2013 in Hungary are based on the national development conceptions (National Development Concept – (Hungarian acronym: OFK), National Area Development Concept – (Hungarian acronym: OTK), just as OPF.

For the coordination between the different Operative Programs and between the Operative Programs and European Fund for Agriculture and Rural Development (EAFRD) and the European Fisheries Fund (EFF), and for the coordination of the subsidies granted by the European Investment Bank and the European Investment Funds and other existing financial assets the National Development Agency (Hungarian acronym NFÜ) is responsible.

Among the operative programs OPF and NFSPH is related to the following programs:

- To the main objective of the **Operational Program for Economy Development (OPED, Hungarian acronym: GOP)**, so to *the strengthening of the long-term sustainable competitiveness of the productive sector*. It highly contributes to the productivity and income generating ability of the different enterprises (in fish production and processing as well). According to this there is a significant strengthening effect between the OPED and NFSPH. There can be overlaps between the beneficiaries (enterprises) of the two programs, so a certain limitation is needed according to the objectives/directions of the project, so OPED does not give any subsidy to the fishery related investments of the beneficiaries included in the two years action plan.
- The **Operational Program for the Environment and Energy (OPEE, Hungarian acronym: KEOP)** contributes to the conservation of natural values protected by national and international laws and to the realization of optimal environment protecting activity. This way it achieves similar objectives than OPF during pond reconstruction and modernization. The overlap between the measures is not possible, since OPEE realizes large, central infrastructural projects without economy development purposes.
- The **Operational Program for State Reform (OPSR, Hungarian acronym: ÁOP) and the Operational Program for Social Reform (OPSR, Hungarian acronym: TÁMOP)** take efforts in order to achieve equal opportunity and regional cohesion. With this they help the availability of social services for the rural population and they improve their opportunities. The agriculture-related social services of the operative programs, which are not included in the focus of OPF are directly connected to the developments supported by OPF.
- The connection between the **regional operational programs** and Operational Programme for Fisheries (OPF) is ensured by the fact that the increasing of competitiveness, the conservation of natural resources and values and the sustainable utilization of those are common strategic objectives of the fisheries sector and the regions. A basic aim is –beyond the overlap-free demarcation- to form a network of connections, which complete and strengthen the certain development directions. The main pledge of coherence is to find harmony regarding infrastructure development and the development directions relating to the concrete regionally stressed areas.

OPF is mainly connected to the European Fund for Agriculture and Rural Development (EAFRD) financed New Hungary Rural Development Program (NHRDP, Hungarian acronym: ÚMVP), such links exist in the areas of post gradual training, extension, moreover, the beneficiaries of the OPF –as people living in rural areas- can also be beneficiaries of the rural development program according to its 3. axis. An example for the demarcation between the two programs is the subsidy of angling tourism, which can be a part of pond fish farming activities, however only related

investments (pond construction and reconstruction, infrastructure development etc.) can be financed from the EFF, while the fund from EAFRD can only be used for tourism (e.g. establishment of parks, gardens).

There is clear demarcation line in the area of food processing. The fish processing plants receiving subsidy from EFF are excluded from EAFRD support.

The common execution system of the OPF and the New Hungary Rural Development Program guarantees that the two programs will be implemented on a complementary basis without overlaps.

In order to eliminate overlaps, the description of the measures clearly define that fisheries subsidy can not be used for investments for the development of agricultural production and food processing and vice versa subsidy for rural development can not be used for fisheries related developments.

6.5. Alignment with Global Challenges

In the beginning of the 21st century the world is facing many challenges, which affects the development of aquaculture directly or indirectly in every region of the world, including Hungary. These challenges have an indirect effect on aquaculture development. However there are some global challenges, which affect directly and which should be seriously taken into consideration during working out development strategies. Some of these are the global climate change, the limitation of available freshwater, the rapid decreasing of non-renewable energy resources, the globalisation of trade, the globalisation of information and communication technologies, etc.

The direct challenge in front of aquaculture is how to satisfy the demand for fish of the ever-growing population within the context of sustainability. According to FAO estimations if we wanted to keep the fish consumption of the world on at least the level of today, the aquaculture production should increase up to 80 million tons by 2050, which is double of the current production (not including water plants). To achieve these aims scientific research work, technology development, and the application of the results of these is needed, with special regard to fish health, fish genetics and feeding including the exploitation of alternative animal protein sources. In addition, there is a need to speed up productivity and to develop fair trade.

The strategy of Hungarian aquaculture development, by virtue of its special character that pond production is dominant, adapts quite well to the global challenges. Hungarian aquaculture production is primarily based on the utilisation of renewable energy resources, since the vast majority of the production is given by species, which are on a lower level of the food chain (carp, herbivorous species). The use of animal protein sources (e.g. fishmeal) as feed ingredient in intensive farms is very low, and at the same time there are efforts to replace animal protein sources and to reuse the waste material of fish processing plants. Though pond farming is not considered as water saving production method, with the developing of multi-functional farming the water utilisation of fishponds will serve several purposes, moreover fishponds will help the more effective management of surface waters (water storage, nutrient retention, etc.), the conservation and expansion of aquatic habitats and the improvement of biodiversity.

In Hungary aquaculture development is supported by an internationally acknowledged research background. The wide international collaborations and the close relationship with the production sector within the country helps the sector to adapt to global challenges as well. The results achieved in the field of developing water saving and environment friendly pond production technologies, including multi-functional farming and organic fish production, are good examples for the science-practice partnership.

Hungarian aquaculture is not limiting the alignment with global challenges to the domestic fish-producing sector only, but is actively contributing in the international projects aiming the alleviation of global and European problems by education, training and expert work in several developing countries of the world.

7. ROLE OF NATIONAL SUBSIDIES IN SUSTAINABILITY

7.1. Experiences of the Former Programme (FIFG)

The experiences obtained during the utilization of FIFG were taken into consideration in the planning of NFSPH and OPF, during the stakeholder consultations and discussions with the potential applicants. An important part of our intentions is to enforce applicants to make mid- and long-term strategies and as a result of this to make them think in project cycles instead of occasional subsidies.

The managing of the applications has been speeded up only after the second quarter of 2005, by the "centralization" with a fishery expert, so the procedure got out of the FIFO (First-In-First-Out) circle applied to the whole of the OPARD (Operational Programme for Agriculture and Rural Development, Hungarian acronym: AVOP) applications. We would like to stress that as a result of the consultation with the Commission the enterprises owned partly or entirely by the government became also entitled for the subsidies. In order to make procedure easier in the beginning of 2006 in the case of construction and reconstruction of fishponds the minimal size of entitled farms has been reduced from 30 to 10 hectares, so the support of smaller farms also became possible. The same time we also reduced the minimal amount that can be used for an application. These measures have expanded the range of applicants and besides there was a growth in the number of applications and the sources have been utilized evenly.

We have concluded that the rearrangement of the resources is needed among the sub-measures after the analysis of the resource utilization in August 2006. After the approval of the modifications by the Monitoring Committee the FIFG financial frame could also be considered exhausted if we took into account the applications, which were not evaluated by that time.

Until 31st of December 2006 there were 75 applications submitted, 39 of which have been awarded with subsidy in a total amount of 1.19 billion HUF, which is 81.5% of the 1.46 billion HUF budget frame. The Decision Committee made a suggestion for subsidizing of four more tenders in a value of 0.2 billion HUF. The total amount of the awarded and suggested subsidies is 1.39 billion HUF, which is 95.2% of the total budget frame. The majority of the applications which have been rejected (10) or withdrawn (19) did not come up to the requirements because of formal and not technical reasons, and many of them have been submitted again after correcting the formal deficiencies. The quality of FIFG management is shown by the fact that in the case of submitted applications there was no need for the "Decision Committee" to bring rejecting decision, and all the suggestion of the committee have been approved by the Managing Authority.

Based on the decisions brought in connection with the tenders submitted before the deadline we can state that the usage of the financial resources in the period between 2004-2006 was successful and the whole financial frame of the Programme became locked up in the middle of 2007 with the undertakings of the Managing Authority.

7.2. Sustainability of Fisheries Resources

One of the most important basic principles of sustainable pond production is the long term protection of natural resources. This is not only an obligation originating from international agreements (Agenda 21), the membership in the European Council, OECD and WTO or coming from the harmonising tasks of EU regulations and the laws relating to environment protection and

nature conservation, but also an important factor of the increasing competitiveness on the market. At the development of Hungarian pond fish production it should be considered as a comparative advantage and positive market factor that during the production, processing, storing and selling, the farmers apply environment protecting procedures, so the international rules of agricultural environment protection, which are getting stricter should come across the whole sector.

In order to ensure competitiveness there are many supporting schemes available for the stakeholders of fishery, but in order to ensure a fair competition, the European Union does not approve any subsidies, even if it is financed from national sources, which distort the competition.

7.2.1. Subsidies Ensured Solely from National Sources

Between the two EU notified subsidies, the support for the stocking of high quality fish brood stock is for the pond producers. The subsidy promotes that only those stocks will be raised to market size, which originates from parents with excellent genetic characteristics, and which have good -economically optimal - growth rate. The available amount for this purpose is 80 million HUF annually, which would be reasonable to be increased up to 100 million HUF.

The other notified subsidy is the support of fisheries management activities on natural waters. The financial source of the support is given by the compulsory payments of the fish farmers and fishers doing angling or fishing activity, although according to the present budget regulation there is no direct relation between the payments and the usage of those. The stocking beyond compulsory stockings in natural waters, the protection of fish stocks and habitat development can be supported through tenders. The supporting intensity for stocking, stock protection and habitat development is 50%, while that of for fishery related research and information dissemination is 75%. The extent of the budget frame does not make the full subsidization of each tender possible, so we try to support as many of them as possible by reducing the programs. The subsidy - though in a limited extent - can be used during oxbow-river reconstructions. The subsidization of research and the distribution of information will be taken out of the circle of subsidies in the new programming period from 2007 in order to avoid doubled subsidization, and they will be reorganized among the measures financed by the resources of EFF. The available budget frame differs annually - according to the national budget -, it was 252 million HUF in 2005, 220 million in 2006, and we would like to keep it on the level of 250 million for every year.

EU sources does not make the direct support of recreational fishery possible, for this reason - and because of the significant social demand - the maintenance of the current fisheries management subsidy system as a national support is reasonable, in accordance with the specifications of the Hungarian Fisheries Law, and to the extent of the budget incomes coming from natural water fishing and angling.

7.2.2. Co-financed Subsidies

The subsidies co-financed by the European Union have been worked out in the framework of the FIFG -which has an individual structural base- for the programming period between 2004-2006. The plans have been basically in accordance with the mainly marine fisheries oriented EU regulations. However, we found those possibilities, which can provide continuity in the field of fishery support, and even give new elements to it. During working out the subsidy system, in agreement with the fish farmers' organisation safeguarding their interests, we aimed to increase the very low domestic fish consumption. The subsidy system included the development of commodity stock, the expansion of product variety, the promotion activities and innovative developments. The main elements of the

subsidy can also be found in the former subsidy system, with very similar conditions. It is very important to emphasise that the rate (intensity) of investment supports is higher than before joining the EU, and together with the national support it reached 46%, while promotion supports and supports for innovative developments reached 80% and 100%. The EU regulations allow the subsidising of natural water fishery as well, though only to a very limited extent. This support includes mainly the purchase of specific tools and equipment.

7.2.3. Other subsidies Available for Fishery Sector

In the third group of subsidies we should highlight the subsidies in the framework of the National Strategy for Rural Development. A large group of subsidies should also be mentioned, which are not serving the purpose of fishery in their names, but are available for the stakeholders of fishery sector taking into account the exclusion of double financing.

7.3. Strategic and Technical Indicators and Target Parameters of NFSPH

For the monitoring of the execution of NFSPH we have specified two indicator groups. The first group contains the strategic indicators ("baseline indicators") of the materialisation of the priorities, while the second group contains "complementary" indicators. Among the applied indicators, the relevant ones concerning the member state should be appointed from the baseline and complementary indicators, which are compulsory to choose. These indicators are listed below. The groups of the technical indicators are given in the annexes.

II. Priority: The Development Level and Competitiveness of the Fisheries Sector

Baseline indicators

- Trend of domestic fish consumption
- Quantity and proportion of domestic products in total fish consumption.

Complementary indicators:

- Production volume of pond and intensive fish production (aquaculture) in quantity and value.

III. Priority: Human Resources and Community Policy

Baseline indicator:

- Workforce in the fisheries sector, proportion of men and women.

Complementary indicator:

- The distribution of employees in fisheries sector according to their qualification.

V. Priority: Management of the Execution of CFP

Baseline indicator:

- The trends of national subsidies

8. SOURCE MAP FOR IMPLEMENTATION OF THE NFSPH

During the planning of the allocation of the resources, the currency rate has been determined in 248,- HUF/EUR for the whole programming period as an average. In the case of co-financed supports the amount in Euro, while in the case of not co-financed subsidies the amount in the national currency is fixed.

Title	Total cost		Total amount of subsidies		National proportion of subsidies		EFF proportion of subsidies		Private component	
	HUF	EUR	HUF	EUR	HUF	EUR	HUF	EUR	HUF	EUR
PA II.										
Aquaculture (building and reconstructing pond farms and intensive systems) according to 29. §	10 200	41,13	6 120	24,68	1 530	6,17	4 590	18,51	4 080	16,45
Measures of animal health-care according to 32. §	168	0,68	168	0,68	42	0,17	126	0,51	0	0
Inland fisheries in natural waters according to 33. §	266	1,07	160	0,64	40	0,16	120	0,48	106	0,43
Investments in the field of fish processing and marketing according to 34. and 35. §	1000	4,03	600	2,42	150	0,60	450	1,81	400	1,61
National subsidy of fish farming (restocking, protection, habitat development)	3 500	14,11	1 750	7,06	1 750	7,06	0	0	1 750	7,06
National subsidy for the stocking of high-quality carp fingerlings	700	2,82	700	2,82	700	2,82	0	0,00	0	0
Total PA II.	**15 834**	**61,02**	**9 498**	**35,47**	**4 212**	**14,16**	**5 286**	**21,31**	**6 336**	**25,55**
PA III.										
Collective actions according to 37. §	1 050	4,23	1 051	4,23	263	1,06	788	3,18	0	0
Generating new markets and organising promotional campaigns according to 40. §	1 050	4,23	1 051	4,23	263	1,06	788	3,18	0	0
Experimental projects according to 41. §	700	2,82	560	2,26	140	0,56	420	1,69	140	0,56
Total PA III.	**2 802**	**11,29**	**2 662**	**10,73**	**666**	**2,68**	**1996**	**8,04**	**140**	**0,56**
PA V.										
Technical Support according to 46. §	**545**	**2,20**	**545**	**2,2**	**136**	**0,55**	**409**	**1,55**	**0**	**0**
TOTAL	**19 181**	**74,52**	**12 705**	**48,40**	**5 014**	**17,39**	**7 691**	**30,90**	**6 476**	**26,11**

Data in million HUF or EUR, Exchange rate: 248 HUF = 1 EUR

9. IMPLEMENTATION AND MONITORING OF NFSPH

9.1. Implementation

The implementation, monitoring, evaluation and control of the National Fisheries Strategic Plan for and that of the Operational Programme for Fisheries are activities that cannot be separated from each other, therefore their institutions and the details of implementation are the same. For this reason the system of implementation and monitoring will be presented through that of the OPF.

Designation of the responsible authorities:

According to Art. 58 of Regulation 1198/2006/EC the implementation of the Operational Programme for Fisheries (OPF) is carried out by the following authorities:

9.1.1. Managing Authority *(MA)*

According to Art XVII, Art 9 d) of Act XVII of 2007 on certain aspects of implementation connected to the agricultural, rural development and fishery supports and other measures, the tasks of the managing authority are carried out by the Minister of Agriculture and Rural Development. The Minister has delegated the tasks to the state secretary for EU affairs within the Ministry. The state secretary is assisted in carrying out the tasks of the managing authority by the Department of Rural Development (DRD). DRD is performing as well as the managing authority of the SAPARD, the Agriculture and Rural Development Operational Programme 2004-2006, the New Hungary Rural Development Programme 2007-2013 and as programme coordination unit for the Rural Development Plan 2004-2006.

In cooperation with other responsible ministries and partners and with the intermediate body (Agricultural and Rural Development Agency, ARDA, same as paying agency for EAGF-EAFRD) the managing authority prepares the regulations concerning the implementation of OPF. The managing authority involves in the managing tasks the Department of Natural Resources as well, which is managing the fishery sector within the ministry. The managing authority supervises and controls the realisation of OPF and manages the programme in line with the decisions of the Monitoring Committee, the relative regulations and with the conditions set in the programme and needs of the target groups.

The managing authority takes the necessary steps in order to fulfil the performance, results and impact indicators defined in OPF. The managing authority performs permanent and effective partner cooperation with the related organisations in order to utilise effectively the special expertise of the partners.

The managing authority delegates the tasks designed in paragraph. b, c, d, f and g of Art 59 of the Regulation to the intermediate body, retaining at the same time the responsibility of managing and implementation.

The secretariat of the monitoring committee and the secretariat of the managing authority operates within the Department of Rural Development of the Ministry of Agriculture and Rural Development.

Address: Ministry of Agriculture and Rural Development (MARD)
State Secretary for EU Affairs
H-1860 Budapest Pf. 1.
Tel.: +36-1-301-4000
Fax : +36-1-301-4000
E-mail: avf@fvm.hu, eha@fvm.hu

9.1.2. Certifying Authority (CA)

According to Art. 58, para 4 the managing and the certifying authority may be part of the same body.

The secretariat of the certifying authority operates within the Department of Rural Development of MARD, separated from the activities of the managing authority.

Address: Ministry of Agriculture and Rural Development (MARD)
State secretary for EU affairs
H-1860 Budapest Pf. 1.
Tel.: +36-1-301-4000
Fax : +36-1-301-4000
E-mail: avf@fvm.hu, eha@fvm.hu

9.1.3. Intermediate Body (IB)

The intermediate body performs the tasks delegated by the managing authority, defined in Art. 59, para b, c, d, f and g of the Regulation:

1. Carries out the processing and scoring of the applications/claims in conformity with the regulations and taking into consideration the suggestion of the Judging Committee makes a decision.
2. Controls the performance of the liabilities connected to the claiming and utilisation of the supports.
3. Ensures the opening of the accounts needed to fulfil the payments, makes public their numbers, issues the handouts needed for claiming and performing other obligations.
4. Grants the support.
5. Provides data for the monitoring systems connected to the supports.
6. Ensures the computerised recording of data connected to the implementation of the programme.

Within the tasks listed above, the registration of the applications, their control, scoring and making a proposal to the Judging Committee is performed by the Central Office of ARDA. The centralised implementation is accounted by the fact that a relatively small number of applications is expected, the fishery expertise and the effective management and fast information flow in order to saving resources. The support decision is taken by the Managing Authority, based on recommendation of the Judging Committee.

Address: M Agricultural and Rural Development Agency (ARDA)
Directorate for Rural Development Supports (DRDS)
H-1054 Budapest, Alkotmány Street. 29
Tel.: Tel.: +36-1-374-3609
Fax : Fax: +36-1-475-2119
E-mail: E-mail: eha@mvh.gov.hu

9.1.4. Audit Authority (AA)

The audit authority was appointed by the Minister of Agriculture and Rural Development, after a public procurement procedure. The audit authority – KPMG Hungary Ltd. – is a Hungarian limited liability company, and a member firm of the KPMG network of independent member firms affiliated with KPMG International, Switzerland. The audit authority is totally independent from the managing authority, the certifying authority and from the intermediate body. As an auditing firm, it has the necessary technical expertise as required by Article 5 of Regulation (EC) No 885/2006. The contract concluded with the managing authority will assure that it will conduct its examination on the OPF – including IT system assessments – and the audit of the annual report and the issue of the certificate according to internationally accepted auditing standards taking into account any guidelines established by the Commission.

Address: KPMG Hungária Ltd.
H-1139 Budapest, Váci Street 99.
Tel.: +36-1-887-7100
Fax : +36-1-887-7101
E-mail: info@kpmg.hu

9.2. Monitoring

For the sake of an effective supervision of the implementation of OPF Hungary sets up reliable accounting, monitoring and financial systems in computerised form that ensures the adequate audit trail. In order to fulfil the monitoring and evaluation activities, within the department in the Ministry of Agriculture and Rural Development (MARD), that is responsible for the managing authority tasks (Department for Rural Development), operates a separate unit that functions the monitoring tasks both of New Hungary Rural Development Programme, and of OPF. This unit is responsible for the comparison of set out targets and the realised results of OPF, for the preparation of the annual reports and for the organisation of the meetings of the monitoring committee.

In order to fulfil its monitoring tasks the managing authority:

- builds up the suitable monitoring capacity, trains the needed human capacity,
- reviews the tasks in connection with the operation and development of the information system (IACS) that is responsible for the management of supports,
- organises trainings for the colleagues dealing with monitoring of the intermediate body, Agricultural and Rural Development Agency, ARDA,
- transmits the information obtained from the Commission to the responsible institutions and forwards the collected and analysed data to the Commission.

The managing authority ensures that:

- the regional, local and other authorities, the economic and social partners, the representatives of the civil society, the non-governmental organisations (NGOs), the environment protection organisations and the organisations for equal rights for men and women can participate actively in the work of the OPF monitoring committee
- the representatives of the Commission can participate at the meetings of the monitoring committee, at their own initiative, with consultative rights.

The managing authority represents the OPF and its monitoring committee in the monitoring committees of the Structural Funds' OP-s monitoring committees.

The Commission participates in the monitoring activity through its representation in the monitoring committee and the annual supervision of the operational programme that includes specifically the analysis of the annual implementation and control report.

The monitoring tasks of the managing authority during planning and programming:

- definition of the suitable financial, output and result indicators,
- definition of the monitoring and implementation system,
- the definition of the data and the time of their provision, that the beneficiaries must provide.

The managing authority and the monitoring committee performs its monitoring activity through the analysis of the financial, output and result indicators. The definition of the indicators, the definition of the targets, the collection, measure and processing of indicators is performed by an informatics system, which is suitable both for the introduction and the storage of data.

The indicators and other data are forwarded from the intermediate body to the managing authority. Inside the intermediate body:

- the regional offices inform the beneficiaries on their obligations connected to monitoring and fill and store the data arriving from the beneficiaries regularly or occasionally,
- the central office collects, aggregates and controls the data introduced by the regional offices and the aggregated data are forwarded to the managing authority.

The process of preparation for the monitoring and evaluation activities includes the following main steps:

- defining the actions of the actors involved;
- the specifications of the documents;
- the listing and classification of the indicators according to source of data and occurrences;
- schematic timetable (who, what, when, what monthly, annually, randomly);
- the precise definition and location of the monitoring points;
- the template of the documents;
- determination of the metadata of the indicators;
- determination of deadlines.

The informatics system needed for performing the monitoring activity (IACS) is operated by the intermediate body, in the development the managing authority is also involved.

The dates available for collecting data (mostly at the submission of the support claim, than once a year, than at the end of the support activity) are given in the operational manual of the intermediate body.

The obligation of supplying data of the beneficiaries (data to be collected, sanctions if data are not supplied) is regulated and supervised by the managing authority, if needed through legal acts, in the form of a regulation.

The beneficiaries can apply directly to the regional offices of the intermediate body with their queries concerning monitoring obligations..

The managing authority collects the following data from research institutes under the responsibility of research institutes (eg Agricultural Economics Research Institute), the Hungarian Central Statistical Office and other institutions:

- horizontal indicators
- context- and macro data connected to OPF
- statistical data of fishery sector.

The tasks and activities of the Committee for Fishery Strategy Coordinating (CFSC) are not terminated with the acceptation of NFSPH and OPF, they continue with the help of the monitoring of NFSPH. The CFSC follows with attention the implementation of the NFSPH and helps the preparation of the annual progress report. The annual progress report is presented to the OPF monitoring committee by the managing authority.

9.2.1. Strategic monitoring

Up to 31 December 2011 the Commission - on the basis of written information submitted by Hungary - organises a debate with Hungary on the content of the national strategic plan and the results of implementation, inspiring the exchange of best practices through Member States. The Commission informs the European Parliament, the Council, European Economic and Social Council and the Committee of the Regions on the outcome of the debate.

9.2.2. OPF Monitoring Committee

The monitoring committee is convened within three months from the date of the notification to the Member State of the decision approving the operational programme

The composition of the Monitoring Committee:

- Chairman – Head of the Managing Authority (State Secretary);
- Deputy Chairman – Head of Department, Department for Rural Development.

Members:

Departments of MARD:

1. Department for EU Coordination and International Affairs
2. Department for Food Chain, Food Safety, Veterinary and Phytosanitary Issues
3. Department for Natural Resources
4. Department for Agricultural Administration
5. Department for Human Resources
6. Department for Agricultural Regulations
7. Legal Department

Intermediate Body:

8. Agricultural and Rural Development Agency, ARDA

Ministries and other bodies of national competence:

9. Ministry of Social Affairs and Labour
10. Ministry for Environment and Water Affairs
11. Ministry of Local Government and Regional Development
12. Ministry of Education and Culture
13. National Development Agency
14. National Land Fund
15. Central Agricultural Office
16. National Directorate of Environment-, Nature Protection and Water Issues
17. Agricultural Economics Research Institute

Delegates of the following Regional Development Councils:

18. Southern Great Plain Regional Development Council
19. Southern Transdanubia Regional Development Council
20. Northern Great Plain Regional Development Council
21. Northern Hungarian Regional Development Council
22. Central Transdanubia Regional Development Council
23. Central Hungarian Regional Development Council
24. Western Transdanubia Regional Development Council

Representations of interest:

25. Hungarian Agricultural Chamber
26. Hungarian Farmers' Association
27. Hungarian National Farmers' and Cooperatives' Association
28. Hungarian Association of Young Farmers
29. Hungarian Association of Agricultural Workers
30. Agricultural Employers' Association
31. National Association of Agricultural Co-operatives and Producers

32. National Association of Food Processors
33. Hangya Association
34. WWF Hungary
35. Hungarian Fish Farmers Association and Product Board
36. National Society of Conservationists
37. National Confederation of Water Management Associations
38. Rural Parliament
39. Joint delegate representing local governments (Association of the Hungarian Local Authorities, National Association of Local Governments of Communes, Small Municipalities and Micro regions)

Horizontal issues and equal-opportunities:

40. Council of Social Equality of Women and Men
41. National Council of Issues Related to Handicapped Persons
42. Council of Roma Integration

Members with consultative rights:

43. Representatives of the European Commission
44. MARD Rural Development, Educational and Advisory Institute
45. Hungarian Public Non-profit Company for Regional Development and Town Planning, Department for Rural Development
46. Hungarian Central Statistical Office

10. ANNEX

Annex 1: **Production Data**

Annex 2/A: **Map A: National map of pond fish farms marked by their size (ha)**

Annex 2/B: **Map B: Location of usable geothermic water base in Hungary**

Annex 3: **Indicators**

Annex 4: **The names of the participants of the Stakeholder consultation**

Annex 1. Production Data

FISHERIES DATA OF HUNGARY (2000-2006)

1. Total fish production and catch of Hungary (2000-2006)

Unit.: tons

Years	Pond production		Intensive production		Inland Fisheries		Total	
	Total	Table size	Total	Table size	Total	Table size	Total	Table size
2000	19 216	12 170	688	682	7 101	6 810	27 005	19 662
2001	18 147	11 933	1 295	1 117	6 638	6 138	26 080	19 188
2002	17 831	10 616	1 285	958	6 750	6 438	25 866	18 012
2003	17 754	10 818	1 249	1 050	6 536	6 118	25 539	17 896
2004	18 729	11 457	1 784	1 287	7 242	6 817	27 755	19 561
2005	19 103	12 189	1 921	1 471	7 609	7 317	28 633	20 977
2006	20 762	12 898	2 081	1 789	7 520	7 172	30 363	21 859

2. Main indicators of pond fish production (2000-2006)

Years	Operating pond area (ha)	Stocking (tons)			
		Common carp	Herbivores	Others	Total
2000	22 547	5 532	1 170	337	7 039
2001	22 462	5 553	1 662	395	7 611
2002	21 090	5 001	1 115	203	6 319
2003	22 750	5 513	993	256	6 762
2004	22 850	5 753	993	273	7 019
2005	23 078	6 166	742	362	7 270
2006	23 878	6 218	1 092	305	7 614

Years	**Harvesting** (tons)					
	Common carp	**Herbivores***	**Others**	**Total**	**Table size fish**	**Net yield** (kg/ha)
2000	13 990	3 899	1 327	**19 216**	12 170	571
2001	12 945	4 182	1 020	**18 147**	11 933	469
2002	13 780	3 150	901	**17 831**	10 616	546
2003	13 559	2 966	1 229	**17 754**	10 818	483
2004	14 831	2 782	1 116	**18 729**	11 457	513
2005	15 326	2 644	1 134	**19 104**	12 189	519
2006	15 980	3 162	1 620	**20 762**	12 898	551

*Herbivores: Bighead carp, Silver carp, Grass carp

Production of inland fisheries (natural waters and water reservoirs)

(2000-2006)

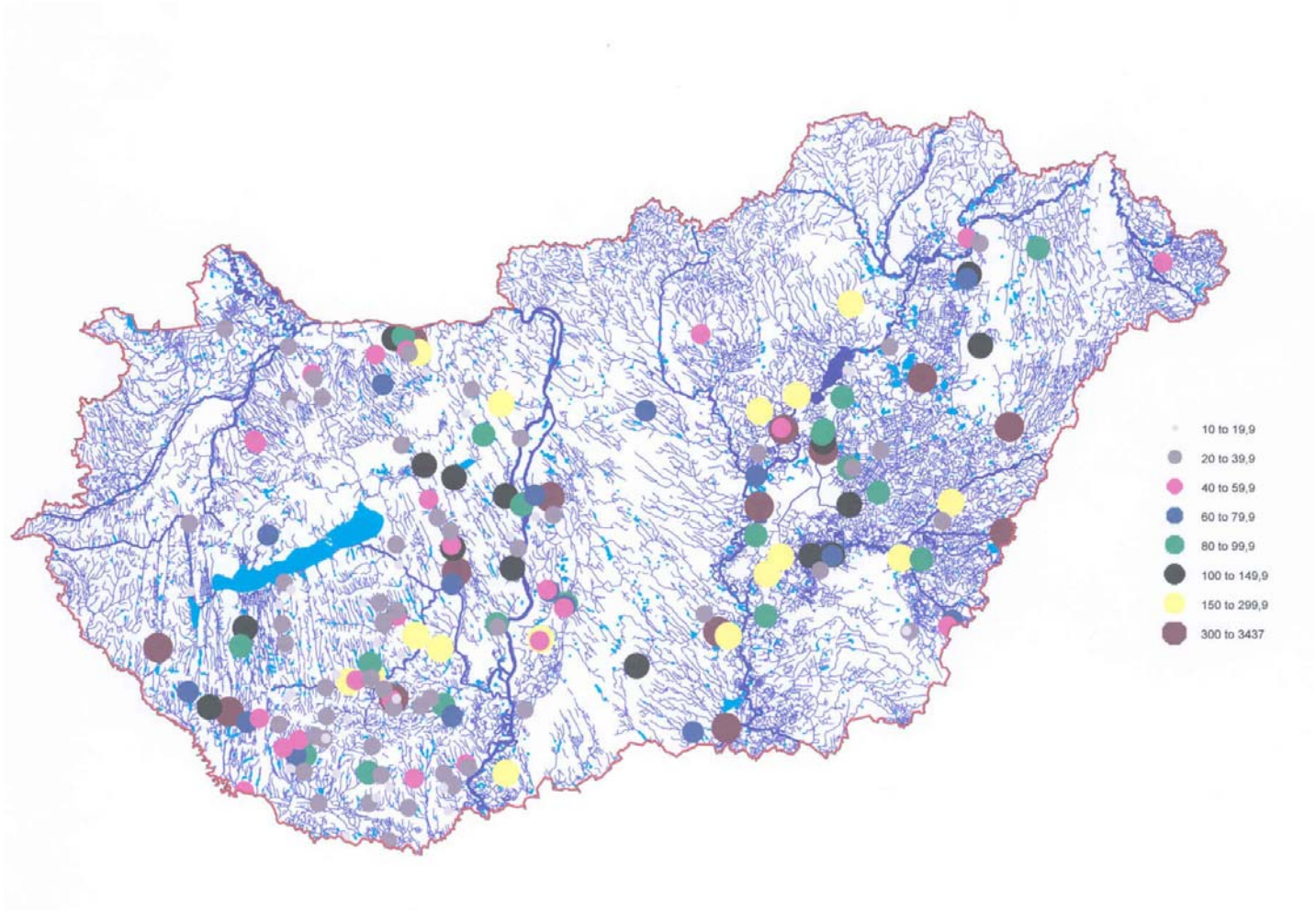
Years	**Reported area** (ha)	**Catch** (tons)			**Share of catch** (tons)		
		High market value fish	**Low market value fish**	**Total**	**Food fish**	**Commercial fishing**	**Angling**
2000	139 756	4 728	2 372	**7 101**	6 810	no data	no data
2001	131 305	4 406	2 232	**6 638**	6 138	no data	no data
2002	134 225	4 337	2 413	**6 750**	6 438	no data	no data
2003	135 474	4 480	2 056	**6 536**	6 118	2 296	4 240
2004	136 456	5 314	1 928	**7 242**	6 817	2 871	4 371
2005	136 180	5 725	1 884	**7 609**	7 316	3 075	4 534
2006	133 948	5 718	1 822	**7 540**	7 172	2 796	4 744

4. Quantity of the most common fish species captured from natural waters and water reservoirs in 2001-2006. (fishing and angling together)

Unit: tons

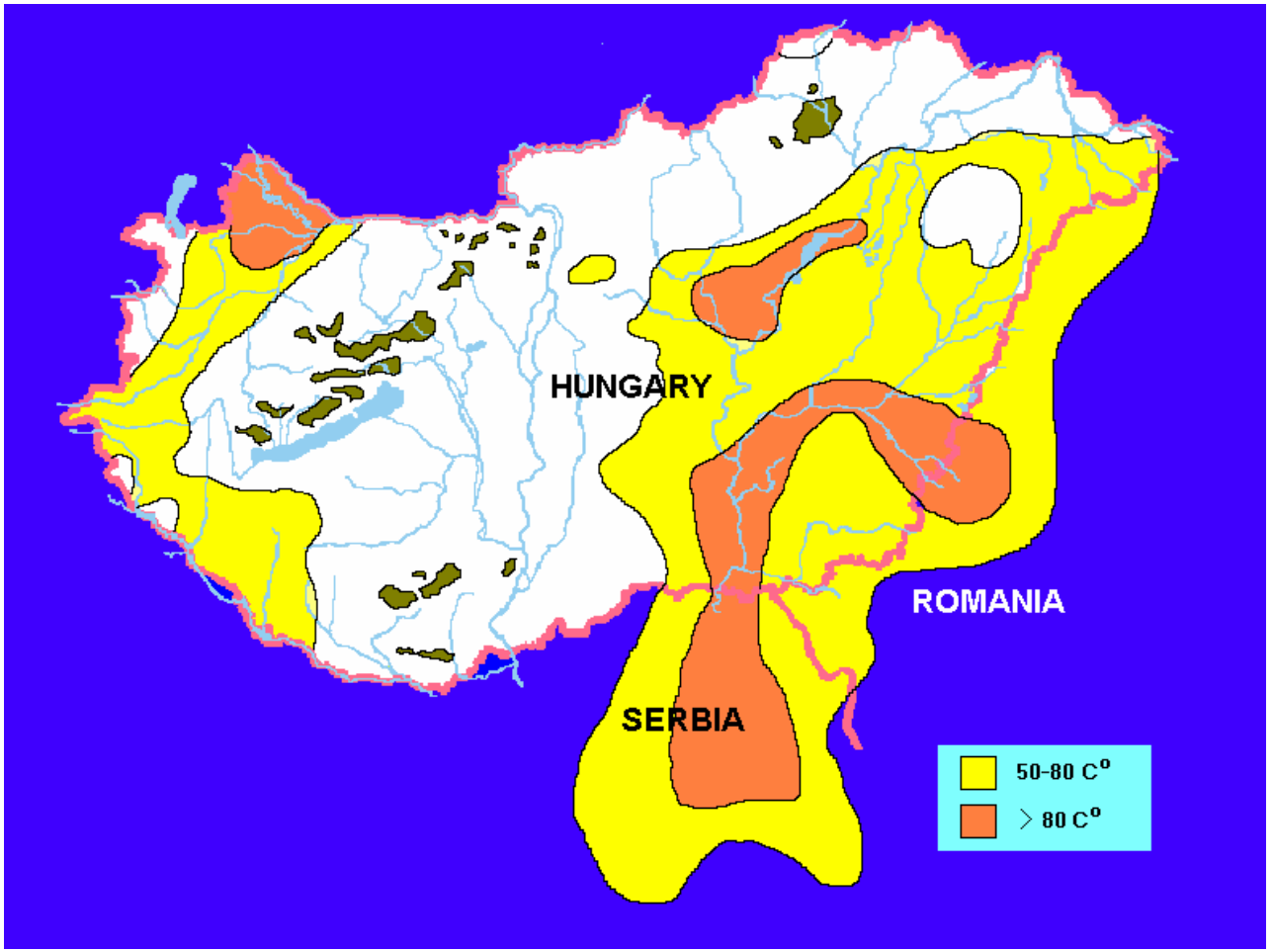
Species	2001	2002	2003	2004	2005	2006
Carp	2 470	2 788	2 929	3 502	3 474	3 731
Grass carp	309	400	372	356	359	393
Bighead/silver carp	997	525	534	767	1 144	754
Pike-perch	197	190	197	196	194	198
Volga pike-perch	10	15	14	13	12	12
Catfish	120	134	136	155	160	163
Pike	191	190	183	197	199	275
Eel	27	18	10	13	74	90
Asp	21	20	38	43	44	44
Sterlet	11	12	11	13	11	10
Barbel	52	41	44	45	38	33
Other species	2 233	2 417	2 068	1 942	1 900	1 837
Total catch	**6 638**	**6 750**	**6 536**	**7 242**	**7 609**	**7 540**

Annex 2/A. National map of pond fish farms marked by their size (ha)



Source: RIAFI, 2007.

Annex 2/B. Location of usable geothermic water base in Hungary



Source: BELTEKY, 1962, ÁRPASI - COHUT, 2000.

Annex 3. Indicators

A. TECHNICAL INDICATORS

Priorities	Starting status	Target status
PA II.		
Tenders for building new fishponds (number)	0	30
Tenders for renewing fishponds (number)	0	50
Tenders winning support for high-quality stocking material (number)	0	350
Support for building and renewing intensive systems (number)	0	7
Support for fish processing (number)	0	10
Tenders for the national support of fish farming (number)	0	1500
Support for natural water fishing (number)	0	15
PA III.		
Support for cooperation in the field of research (number)	0	7
Supporting education (number)	0	7
Supporting producers organisations (number)	0	2
Supporting general promotion and market development (number)	0	15
Supporting pilot projects (number)	0	7
PA V.		
Technical assistance	0	Use of 5% of EFF in 7 years

B. STRATEGIC INDICATORS

Priorities	Starting status	Target status
PA II. Development status and competitiveness of the fisheries sector		
Basic Indicators		
Status of domestic fish consumption (kg/capita/year in live weight)	4,7	6,0
The quantity and proportion of domestic products in consumption	To be surveyed	Should be determined according to surveys (can not decline)
Supplementary Indicators		
Increase in the production volume of pond and intensive farming	0	10%
Increase in the production value of pond and intensive farming	0	10%
PA III. Human resources and social policy		
Basic Indicators		
Labour force in fisheries sector, proportion of men and women	To be surveyed	To be determined (can not decline)
Supplementary Indicators		
Proportion of technical skill of employees in fisheries sector	To be surveyed	To be determined (can not decline)
PA V. Managing the realization of CFP		
Basic Indicators		
Status of subsidies	0	Realization according to source division

Annex 4. The names of the participants of the Stakeholder consultation

The members of the Thematic Working Group of the Ministry of Agriculture and Rural Development in the Closing Up Program of Rural Areas (agricultural structural change):

1. Ministry of Agriculture and Rural Development
2. The Hungarian Prime Minister's Office – National Office for Development
3. Representatives of the partner ministries:
   a. Ministry of Economy and Transport
   b. Ministry of Justice and Law Enforcement
   c. Ministry of Environment Protection and Water Management
   d. Ministry of Finance
   e. Ministry of Social Affairs and Labour
   f. Ministry of Healthcare
4. Government Office of Regional Policy
5. Government Office of Equal Opportunities
6. Representatives of the Regional Development Agencies:
   a. Development Agency of Central Hungary
   b. Development Agency of North Hungary
   c. Development Agency of the Northern Great Plain Region
   d. Development Agency of the Southern Great Plain Region
   e. Development Agency of Western Transdanubia Region
   f. Development Agency of Southern Transdanubia Region
   g. Development Agency of Central Transdanubia Region
7. Hungarian Public Non-profit Company for Regional Dev. and Town Planning
8. Hungarian National Office for Regional Development
9. Agricultural Economics Research Institute
10. Hungarian Chamber of Agriculture
11. Hungarian Chamber of Trade and Industry
12. Council of Agricultural Economics
13. Federation of Hungarian Food Industries
14. Rural Parliament and National Federation of Rural Tourism
15. National Council of Gypsy Affairs
16. Women Representation Council
17. Hungarian Irrigation Society
18. Agricultural Guarantee Fund
19. National Society of Conservationists-Hungary
20. Hungarian "Naturpark" Federation
21. National Meeting of Environment- and Nature Protecting Civil Organisations
22. Agriculture and Rural Development Agency

Members of the Game, Fishing and Water Management Sector Committee of the Conciliating Council of Agriculture and Rural Development:

1. Federation of Agricultural Employment
2. National Federation of Agricultural Research Institutes
3. Hungarian Federation of Forestry and Wood Industry
4. Hungarian Fish Farmers Association
5. National Federation of Hungarian Anglers
6. National Federation of Private Forest Owners and Farmers
7. National Federation of Hungarian Landowners
8. Trade Union of Agriculture, Forestry and water Management Employees
9. Federation of Agricultural Economical Societies
10. National Federation of Water Management Associations
11. Hungarian National Game Society

Affected or possibly affected members of the Monitoring Committee of the Operative Program for Agriculture and Rural Development, who were not listed in the earlier lists:

1. Managing Authority of the Community Subsidy Frame
2. Association of the Federation of Hungarian Municipalities
3. Federation of Agricultural Employment
4. Employer Side of the National Council of Reconciliation
5. Employee Side of the National Council of Reconciliation
6. Federation of Food Industry Trade Unions
7. National Federation of Hungarian Farmer Unions and Producer's Co-operatives
8. National federation of AGRYA (representation of the interests of young farmers)
9. National federation of Agricultural Unions and Producers
10. Federation of Hungarian Farmers
11. College of Agricultural Deans and General Directors
12. National Council of Deficient Matters
13. Directorate General of Environment Protection, Nature Conservation and Water Management

Organisations, who are not listed in the above lists, but who are asked for their opinion:

1. Szent István University
2. Debrecen University
3. Kaposvár University
4. Veszprém University, Keszthely Faculty
5. Western-Hungarian University