

# ANALIZA MALIH OBITELJSKIH KOMERCIJALNIH RIBNJAKA U HRVATSKOJ

## THE ANALYSIS OF SMALL FAMILY COMMERCIAL FISH FARMS IN CROATIA

**Tomislav TREER, Roman SAFNER, Ivica ANIČIĆ**

### SAŽETAK

Značajne ekonomske i političke promjene koje su se u proteklom desetljeću dogodile u Hrvatskoj utjecale su i na male obiteljske farme da se mnoge među njima priklone i ribarstvu. Većina ih je započela ovaj posao bez ikakvog znanja i iskustva. Zbog toga smo intervjuirali 13 farmera s ciljem da prikupimo podatke o njihovim farmama, obiteljima i problemima s kojima se suočavaju. Prosječna farma posjeduje oko 1 ha vodene površine, ima 4 člana obitelji, a prihod povezan s ribarstvom sudjeluje s oko 70% u ukupnom prihodu. Vlasnik je obrtnik četrdesetih godina, koji prodaje oko 3 tone ribe godišnje prvenstveno kroz restoran i sportski ribolov, obzirom da se u današnjoj situaciji najteže zarađuje samo uzgojem riba. Pri izgradnji ribnjaka, pored pravila ribarske znanosti treba poštivati i ona uređenja krajobraza. Također je farmerima potrebno ponuditi bolje kreditne uvjete kako bi lakše započeli svojim poslom, kao i reducirati mnogobrojne naknade koje prate izgradnju ribnjaka i proizvodnju. Hrvatska poljoprivredna savjetodavna služba trebala bi se organizirati i u kvalitetnom praćenju ovakvih farmi.

**KLJUČNE RIJEČI: obitelj, ribnjak, Hrvatska, sportski ribolov**

### ABSTRACT

The significant economical and political changes that affected Croatia in last decade influenced the approach of small family farmers to fisheries as well. Most of them started that job without any knowledge and experience. That is why 13 farmers were interviewed in order to get the data about their farms, families and problems they face. The average farm has about 1 ha pond area, 4 family members and income connected with fisheries about 70% of total income. The owner is an artisan in his forties who sells about three tons of fish per year primarily through restaurant and sport fishing, as in present situation on the fish market it became obvious that persisting only on fish culture is the most difficult way to earn money. In building the ponds the rules of landscape architecture should be respected together with those of fishery science. It would be necessary to offer the farmers better conditions in bank loans to start their business as well as to reduce many taxes, which they have to pay. The Croatian Agricultural Extension Service should be organized better to serve those farmers.

**KEYWORDS: family, fish farm, Croatia, sport fishing**

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### DETAILED ABSTRACT

This paper deals with the results of our visits to 13 small family commercial fish farms. At each of them we interviewed the farmers with the same questionnaire in the first half of 1999. The questions were divided into several groups giving the answers about the ponds, family, the way of fishery managing and the principal problems that the farmers face in their everyday work.

The investigated farms are mainly situated in the northwestern part of Croatia (Fig. 1). All farms have pond area under or slightly over 1 ha, while only one has 7 ha. Half of the investigated farms have the salmonid and other half cyprinid water quality. All farms, except one, were built beside the roads and necessary supplies. The necessary equipment on most farms is good.

The basic occupation of the owner is predominantly artisan of different specialization. Half of them are in their forties years of life, while the range is from 28 to 60. The number of family members involved in the fish farm is usually between 3 and 5. The participation of the income connected with the fisheries in the whole income of the family ranges from 60-100%.

In present situation on the fish market it became obvious that persisting only on fish culture is the most difficult way to earn money. That is why it is advised to the farmers to combine culture with restaurant and sport fishing (Fig. 2). In that case the shape of the ponds should be incorporated in the nature, respecting the rules of landscape architecture. Annual production per farm is between 1,5 t and 6 t of cultured fish; while from 0,5 t to 5 t is soled through angling.

The basic problems expressed by almost all farmers are the lack of suitable bank loans that could help them to develop their activities, then high taxes for all the licenses, use the water and veterinary service. The lack of quality domestic food is also mentioned, while the lack of continuous extension service is also obvious. That is why it would be necessary to organize courses for Croatian Agricultural Extension Service personnel to serve family fish farmers better and to employ fresh water fishery experts.

It is possible to conclude that in the hard times for agriculture and fisheries in the Central European area small family commercial fish farms could be one of the solutions, but as this type of business is at its beginning it needs much help from the experts as well as from the government.

**KEYWORDS:** family, fish farm, Croatia, sport fishing

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## THE ANALYSIS OF SMALL FAMILY COMMERCIAL FISH FARMS IN CROATIA

### INTRODUCTION

After the transitional changes the freshwater aquaculture in all Central European region has been passing through important transformations. In most countries the production has fallen down to even only one third. Many farms stopped the production on big proportion of their ponds. As an example, the famous Institute in Szarvas reduced its capacities and stuff to almost one fifth (Treer, 1996; Varadi, 1996). These serious problems resulted in conference hold in Budapest in 1996 where the fishery experts from the region tried to find the solutions. One of the recommendations was to develop sport fisheries which has great significance in the developed world (Varadi, 1999).

The similar process has been occurring in Croatia since the economic and political changes in 1990. The freshwater fish production dropped from 12000 tons to only 4000 tons (Turk, 1998). In the same time significant opposite process has been occurring in small family aquaculture. While before these changes Croatia had only one private carp farm and just few trout ones in recent years tremendous interest among farmers to create their own farms raised. However, most of them suffered in the lack of information, not knowing the basic principles of how to build and run such farm. Many of these farms are therefore made and run voluntarily, so our attempt was to establish contacts with such farmers, collect the data about their farms and to advise them in their further work.

### MATERIALS AND METHODS

This paper deals with the results of our visits to 13 small family commercial fish farms. At each of them we interviewed the farmers with

the same questionnaire. The questions were divided into several groups giving the answers about the ponds, family, the way of fishery managing and the principal problems that the farmers face in their everyday work.

The farmers were interviewed in the first half of 1999. The contacts with some of the farms were established even before and are kept now with all of them, continuously developing the cooperation with the other farms, too.

### RESULTS

The investigated farms are mainly situated in the northwestern part of Croatia (Fig. 1). All of them were formed in nineties or late eighties. All farms have pond area under or slightly over 1 ha, while only one has 7 ha. Half of the investigated farms have the salmonid and other half cyprinid water quality. The ponds are filled either from the origin of the spring, either by the water few kilometers from it. One farm has only pit water. The depth of the cyprinid ponds is usually around 2,5 m or more up to 4 m, while the one of salmonid ponds is around 1 m. The farms were built beside the roads and necessary supplies (water, electricity). Only one is about 100 m far from them. The necessary equipment on most farms is good. The way of guarding the ponds if different. The owners live on four farms. Others are guarded by other members of the family (parents, brother), by paid guard, by dogs, only fence or not guarded at all.

The basic occupation of the owner is predominantly artisan of different specialization (two of them are qualified fish workers). Two owners

**Figure 1.**  
The location of investigated farms in Croatia (numbers indicate the family names of the owners):

- 1- Posavec
- 2- Petko
- 3- Vranešić
- 4- Šaravanja
- 5- Krajačević
- 6- Grđan
- 7- Drempetić
- 8- Deško
- 9- Delišimunović
- 10- Vrabac
- 11- Kundić
- 12- Borić
- 13- Čikota



are retired and one is army officer. Half of them are in their forties years of life, while the range is from 28 to 60. The number of family members involved in the fish farm is usually between 3 and 5 (exceptionally 2 and 6). At the biggest farm all 11 family members are somehow included in the jobs connected with it. The participation of the income connected with the fisheries in the whole income of the family ranges from 60-100%. Three farms are just at the beginning now, yet without any income and the fourth one earns only 5%.

The way of managing fisheries in most cases is through sport fishing or combining it with aquaculture (Fig. 2). The anglers have to pay the all fish caught depending to weight. Only three farms are devoted just to fish culture. In that being the case one farm has the culture connected to the own restaurant, another is in the process of foundation,

The basic problems expressed by almost all farmers are the lack of suitable bank loans that could help them to develop their activities, then high taxes for all the licenses, use the water and veterinary service. The lack of quality domestic food is also mentioned, while the lack of continuous extension service is also obvious.

There are also some alternative attempts to earn some money for the family from fisheries. One retired soldier cultures the rainbow trout in cages in the river Cetina in Dalmatia. He produces about 2 t of fish annually selling them mostly to sport fishermen who visit the river. In other case the farmer leased the bog and organized commercial sport fishing there.



Fig. 2: The pond of Grdan fish farm

while the only one that exclusively sells to the market faces the problems with selling. The restaurants are established at two of other farms, too.

Annual production per farm is between 1,5 t and 6 t of cultured fish; while from 0,5 t to 5 t is soled through angling. One of the farms intensively produces rainbow trout in amount of 40 t per year and sells it to the Zagreb market. Other cultured fish are soled locally, exported to Italy or through own restaurant. Some farmers start culture with one-month-old fish, while the others start with pre consumable size (trout around 140 g, carps nearly 300 g). One farm tries only with the culture of carp fingerlings that could be soled to bigger farms for further culture. The carp at these farms is fed with grains and trout with pelleted food as is the practice on big farms. Besides the common carp the cyprinid farms usually have grasscarp, bighead, silver carp, pike, European catfish and brown bullhead.

#### DISCUSSION

The significant economical and political changes that affected Croatia in last decade influenced the approach of small family farmers to fisheries as well. Many of them have been trying to earn part of their income by building the ponds and keeping the fish. Most of them started that job without any knowledge and experience, so facing the problems in building the ponds and keeping the fish in them.

In present situation on the fish market it became obvious that persisting only on fish culture is the most difficult way to earn money. That is why it is advised to the farmers to combine culture with restaurant and sport fishing. Moreover, only sport fishing or combination of it with the restaurant in the most cases could be the best solution. In that case the shape of the ponds should not be rectangular like it is on big farms. It should be incorporated in the nature, respecting the rules of landscape architecture (Jungwirth et al., 1995).

## THE ANALYSIS OF SMALL FAMILY COMMERCIAL FISH FARMS IN CROATIA

Almost all the farmers started with this enterprise faced serious money problems. It is very expensive to get all the licenses, to build the ponds and to buy fish and food. It would be necessary to offer the farmers better conditions in bank loans to start their business. Also, later on the taxes for water use and services are too high and should be reduced.

The Croatian Agricultural Extension Service has the branch for fisheries, but it is not equipped with the skilled personnel in the field. The staff consists of faculty educated agriculturists, but they don't have experience in fisheries. That is why it would be necessary to organize courses for them to serve family fish farmers better and to employ fresh water fishery experts.

It is possible to conclude that in the hard times for agriculture and fisheries in the Central European area small family commercial fish farms could be one of the solutions, but as this type of business is at its beginning it needs much help from the experts as well as from the government.

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