## ANALYSES of FISH FARMS in the BLACK SEA REGION

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Between July 1998 and December 1999, a project supported by Ministry of Agriculture and Rural Affairs (MARA), General Directorate of Agricultural Researches (GDAR) was carried out by Central Fisheries Research Institute (CFRI) to determine the technical and economic feasibilities and problems of aquaculture facilities in the Black Sea Region. A total of 478 fish farms, licensed and unlicensed, in fresh water and sea water, were found in 17 cities along the Black Sea between Artvin and Düzce and six other cities nearby. Of these, 316 were visited and their owners interviewed about the present condition of the fish farms and other concerns.

The study showed that the number of fish farms and their capacity had increased especially after 1990. Of the 478 fish farms, only 88% are operational, 79% are family-run, 95% are located in fresh water, 94% produce only rainbow trout, and 92% of them produced 30 tons/year or less. The important characteristics are in Table 1.



The study points to a need for better regulations and enforcement to ensure the sustainability of fish farms in the Black Sea. There are so many high-capacity fish farms in the region and optimal use of such capacity is called for. Significant steps should be taken to provide technical support to private fish farms, help resolve the problems and priorities, and to undertake research crucial to the private sector. At the same time, the private sector members should come together to make important improvements. The goals of the sector can be achieved by means of cooperatives.

| Fish Farm Characteristics |                        | Rate |
|---------------------------|------------------------|------|
| Establishment date:       | at last 5 years        | 57%  |
| Establishment date:       | at last 10 years       | 92%  |
| Activity state:           | Active                 | 88%  |
| Water resource:           | Fresh water            | 95%  |
| Production:               | Rainbow trout          | 95%  |
| Capacity:                 | 5 tons/year and below  | 49%  |
| Capacity:                 | 30 tons/year and below | 92%  |
| Management:               | Family run             | 79%  |
| Finance:                  | Self investment        | 55%  |
| Land state:               | Landowner              | 69%  |
| Restaurant state:         | Owner                  | 42%  |
| Hatchery:                 | Owner                  | 47%  |
| Personnel:                | 1-3 persons            | 73%  |
| Personnel:                | Family person          | 51%  |
| Marketing:                | Retail and restaurant  | 90%  |
| Market:                   | Near local area        | 82%  |
| Marketing time:           | Spring and summer      | 62%  |
|                           |                        |      |

## Table 1. The fish farms characteristics and their rates.