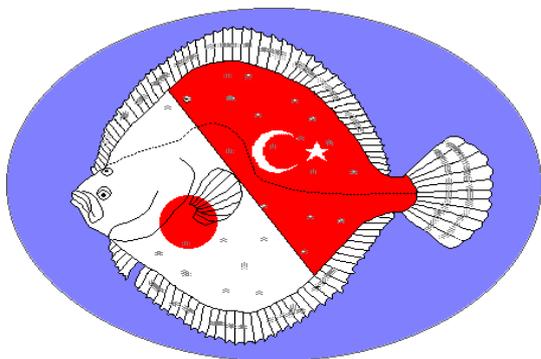


## FISH CULTURE DEVELOPMENT PROJECT IN THE BLACK SEA

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In Turkey's VII and VIII Five-Year National Development Plans, high priority is given to fisheries and aquaculture. The Government of Turkey regarded aquaculture development as indispensable for the management and conservation of fisheries resources and requested technical assistance from the Government of Japan for the development of fish culture. In April 1997, the Fish Culture Development Project in the Black Sea was started at Central Fisheries Research Institute (CFRI) Trabzon as a five-year collaboration between Ministry of Agriculture and Rural Affairs (MARA) and Japan International Cooperation Agency (JICA). Under this project, it was decided to implement research and technology transfer in the seed production and culture of flatfish especially turbot.

Thus Japan dispatched 4 long-term experts, 1 coordinator, and 18 short-term experts; the Turkish side assigned 11 counterparts and workers to the Project. The 11 counterparts and 2 administrative personnel have trained in Japan. Under the Project, existing hatchery facilities were repaired and seawater intake system was constructed at 20 m and 40 m depths by extending pipe line in the Black Sea. In 1999, a grow-out research laboratory was constructed. Till the end of 2002, the Japanese side has provided machines, equipment, and materials for seed production and grow-out culture that amount to Japan Yen JY 200 million (about US\$ 1.6 million).

The general objective of the Project was to develop techniques for seed production and rearing of flatfish species. The target annual production of the hatchery was set at 10,000 juveniles of 10 cm total length. The Project covered five main research areas, and the results were as follows (Table 1).

Table 1. The project covered research areas and the accomplishments.

Research areas	Accomplishments
Identification of target flatfish species	A guide book was published in May 2001 (Amaoka <i>et al.</i> 2001)
Broodstock development	Optimal environmental conditions for broodstock have been identified
Spawning and incubation technology	Technology to induce spawning developed; 30% hatching rate achieved
Rearing techniques for larvae and juveniles	Culture techniques for phyto- and zooplankton; improvement of nutritional value; increased survival of larvae and juveniles
Grow-out culture techniques	Grow-out culture systems developed; turbot growth and nutrition needs known

