

- **Invited Paper** -

THE OUTLOOK OF FINFISH AQUACULTURE IN KOREA - THE ACTIVITY AND STRATEGY

Yoon KIM

National Fisheries Research and Development Institute, Busan 619-902, Korea

Korea has a long history of aquaculture activity along the coasts of the peninsula, targeting a variety of economic species specified to locations. The total farming area developed for the activity amounts to 123,168 ha in 2001 : 121,980 ha for marine species and 1,188 ha for freshwater species. In reality, mariculture has dominated the aquaculture activity of the country. Of them, marine finfish aquaculture occupies 2,804 ha in three ways, land-based tank (251 ha), net cage (1,282 ha), and embankment (1,271 ha). The embankment aquaculture for finfish has gained most significant increase, 6 times in last 3 years.

According to 2001 fisheries statistics, the aquaculture production reaches 656,000 tons (M/T), occupying 25% of total fisheries production from capture fisheries and aquaculture, 2,665,000 tons. The finfish production amounts to 29,297 tons from flounders (16,426 tons), black rockfish (9,254 tons), mugils (1,415 tons), sea bass (873 tons), and etc. This represents 4.5% of the total aquaculture production.

World catch fisheries production is very unlikely that substantial increases in total catch will be obtained in spite of the expected increase the human needs in the future. Coastal fisheries production is also subject to decline from the deteriorated fishing grounds due to the enforced regulation and declaration EEZ of coastal nations. To the worse, coastal pollutions from human activities are progressive. It has been particularly true when Korean fisheries production is concerned. Here, we have a number of issues that must be addressed to overcome this problem. Among these are: 1) aquaculture approach to more economic species, 2) domestication of valued exotic species, 3) preservation of indigenous species, 4) introduction of biotechnology and molecular biology to aquaculture, 5) development of an integrated and appropriate management for environmentally sound aquaculture, 6) effective control of diseases, 7) effective processing of aquaculture product, 8) improvement of marketing management for efficient usage, and 9) establishing a database of aquaculture practices and effective management systems.

Advanced types of aquaculture management are also encouraged to be introduced for the preservation and development of the aquaculture. They are 1) intensified research on the target species, development of environmentally sound processed food, and development of vaccines against serious diseases, 2) development of site-specific aquaculture species, 3)

integrated management of aquaculture under the name of carrying capacity modeling and systematic operation of the facilities, and 4) development of processing technology and public advertisement for the open consumption of aquaculture products.

Finally, to keep our aquaculture industry permanent and successful, negative environmental impacts that result in serious problems in our aquaculture grounds must be avoided at all costs. This implies that aquaculture strategy should be more systematic in the operation and management, introducing better planning, modeling for risk assessment, facility design, waste water treatments, and development of recent technologies and techniques in the aquaculture industry.