

Major Turning Points of Modern Aquaculture

Since the first description of carp culture in earthen ponds during the 5th century B.C. by a Chinese named **Fan Li**, great progress was made not only in monoculture of common carp but polyculture of grass carp, black carp, silver carp and bighead carp during the succeeding periods of the Han Dynasty and the Tan Dynasty until the 12th century. In time and scale, carp culture served well Asia – China, South Asia, most countries in Southeast Asia, certain areas in Central Asia and Eastern Europe – when the rapidly growing population needed the protein food fish. Through time, farmers of such system preserved its best feature, i.e. farming within the limits of nature.

But demand was increasing from a rapidly rising population. Thus, seeing the need to build aquaculture into a full-fledged industry, the first world meeting on aquaculture, The World Symposium on Warm-water Pond Fish Culture, was organized by FAO in May 1966 in Rome, Italy. Subsequent meetings in 1967 (FAO World Scientific Conference on the Biology and Culture of Shrimps and Prawns, Mexico City, Mexico) and 1973 (Technical Conference on Fishery Management and Development, Vancouver, Canada) and the previous 1966 symposium recommended the holding of a World Technical Conference on Aquaculture. Ten years after seeding the idea of a global conference, the **FAO Technical Conference on Aquaculture** was held in Kyoto, Japan from 26 May to 2 June 1976 (“The 1976 Kyoto Conference on Aquaculture”). *This is the first major turning point of modern aquaculture.*

The Kyoto Conference reviewed the status, problems, opportunities and potential for the culture of fish, crustaceans, molluscs and seaweeds and prepared the **Kyoto Declaration on Aquaculture**. The Kyoto Declaration placed aquaculture prominently in national planning. It became recognized as a legitimate user of land and water resources, and worthy of more research investment. Personnel were trained for better planning, management, research and production. The technological component of the Declaration boosted productivity.

Meanwhile, communities prospered, people are stronger and healthier and there came better opportunities to improve livelihoods, more income and better nutrition. Farmers and women are empowered. As well, farmed areas expanded, harvests became more reliable and aquaculture soon emerged as the fastest-growing food production sector. Both small-scale and commercial- and industrial-scale operations supported by an increasingly efficient global trade regime and marketing network, contributed to the success of the sector. To feed a growing world, it has had to push beyond the constraints imposed by nature, at times disorderly and with little restraint. In the late 1980s, it began to show this tendency, subsequently suffering from its unfortunate effects that included pollution, disease and social disapproval.

To bring order to its development and that of fisheries as a whole, FAO and governments, in 1995, promulgated the **Code of Conduct for Responsible Fisheries (FAO CCRF)** which enshrined the principles of environmental and social

responsibility. *This is the second major turning point of aquaculture.* Those who wanted to farm in accord with such principles were assisted with technical guides, and standards and certification schemes; ensuring social and environmental responsibility made the sector busy.

Going into the third millennium, the sector saw the need to translate into a working strategy seven principles: (i) fair reward for farmers; (ii) equitable share of benefits and costs; (iii) societal benefits with minimum harm from its practice or products, (iv) creation of wealth and more jobs; (v) sufficient food is accessible to all, (vi) next generation’s environment is conserved, and (vii) orderly development of the sector. These principles were unified at the Conference on Aquaculture in the Third Millennium (February 2000) into a global strategy to achieve the social, economic and environmental sustainability goals of aquaculture development. **The Bangkok Declaration and Strategy for Aquaculture Development beyond 2000 is the third major turning point of aquaculture.**

Immediately after the aquaculture millennium conference, governments mandated FAO to create the FAO Committee on Fisheries **SubCommittee on Aquaculture (COFI/SCA)**. *This is the fourth major turning point of aquaculture.* COFI/SCA serves as the only inter-governmental forum for consultation and discussion on technical and policy matters related to aquaculture including issues, trends and needs of global importance that require actions to achieve the sustainable contribution of aquaculture to food security, economic development and poverty alleviation.

Since 1966, four watershed events over close to 50 years – enough to nourish aquaculture in the next five decades. But with 78 million more people every year, and the slim growth prospect of capture fishery, aquaculture will need to do more. The sector will have to sharpen its competitiveness against every food industry in an increasingly sophisticated and a modernizing global market ... and brace itself for a host of persistent and emerging problems and challenges.

Aquaculture is not new to facing these challenges. It has the tools, forged in the Kyoto Declaration, sharpened by the adoption of the FAO CCRF, wielded with increasing confidence by the application of the Bangkok Declaration and Strategy and supported by strong government commitments through the COFI/SCA – the four watershed events of modern aquaculture. The tools have worked with varying degrees of effectiveness amidst diminishing land and freshwater resources, a rising demand for more and safer food, and through energy and financial crises. We will need to make them sharper, more effective and more versatile yet -- in a warming Earth.

The bright view is that aquaculture will continue to grow; this optimism is well-founded, based on its performance during the last few decades - so that aquaculture can serve the people better, nations continue to prosper with wholesome and peaceful communities.