

Conference report

Fourth Asian Fisheries Forum: 16–20 October 1995, Beijing, China.

The impressive participation at the Fourth Asian Fisheries Forum, held by the Asian Fisheries Society (AFS) in Beijing, China from 16 to 20 October 1995, demonstrated that fisheries science is active in Asia where about half of the world's capture fisheries production is taken and more than 85% of aquaculture production occurs. Fish are eaten there in greater quantities, and provide a much greater share of the animal protein, than in all other parts of the globe.

To emphasize the importance of fish to China's 1.3 billion people, the Forum was opened by Mr Liu Cheng Gue, Vice Minister of the Ministry of Agriculture in China, who told us that China produced 21.46 million tonnes of aquatic products in 1994 and is aiming for 28 million tonnes in 2000. The increases have come from aquaculture, and China aims to continue promoting this means of production. Although the gains and projections seem extraordinary, aquaculture is highly visible in China. The fish ponds seen on flying into Beijing from the north are just one example of how aquaculture is altering the very landscape of China and of many other Asian countries.

The Asian Fisheries Society was born in 1984 and now boasts over 2600 members from 75 countries. India and the Philippines have the most members; although Asian members dominate in numbers, interest is strong globally. The Asian Fisheries Fora are held every 3 years, each time in a different city. The Beijing conference was the fourth and had about 600 registrations. Most of the scientists were young, reflecting the growth of the field. Organizers welcomed eight participants from Cambodia, the first from this country to attend a forum. Participation from Vietnam was also strong, demonstrating better stability and development in the whole Mekong subregion.

The Forum was accompanied by an extensive trade display showing technologies, products and services. Among the novelties were Chinese green hair tortoises, claimed to live for more than 1000 years and regarded as a symbol of richness and longevity. At US\$300 each, these seem like a good investment! Freshwater pearls, a fast-growing aquaculture product worldwide, and live eelers from the United Kingdom were also on display.

Most days were filled with five parallel sessions in themes (aquaculture, disease, nutrition, shrimp culture, genetics, fisheries resources, capture fisheries, fish biology, postharvest, ecology, socio-economics, biotechnology) and many special symposia on topics such as biodiversity, stock enhancement, co-management, rice–fish systems and aquaculture and the environment. In all, about 400 papers were delivered in the main sessions and 58 papers in the seven special symposia; all papers were in English. Many posters were also displayed. As with each of the first three fora, the proceedings will be published in a substantial volume of short papers (Maclean *et al.*, 1986; Hirano and Hanyu, 1990; Chou *et al.*, 1994).

Fisheries and aquaculture science is a lively field in Asia and its results are building a substantial body of critical knowledge on the natural systems, farming practices,

species and socio-economics of the region. Many coordinated studies showed the benefits of a comprehensive programme approach, such as those on several fish species and crustacean assemblages in the East China Sea, and the study of small pelagics in the Java Sea.

Environment and biodiversity were given strong attention, as was production. The symposium on aquaculture and the environment had to turn people away when the room became too crowded. The biodiversity symposium was also well attended. The special symposium on fishing technology (cooperative research in Asia for fishing technology, CRAFT) sought to further cooperation in research and examined existing multilateral and bilateral cases, as well as technology cooperation outside Asia.

Women scientists were strong participants at the forum. 'Women in Fisheries' were also highlighted at a photographic exhibition and competition, co-sponsored by the Asian Fisheries Society and PADEK, a Cambodian NGO, to heighten awareness of the strong and expanding role played by Asian women in fisheries, aquaculture, post-harvest and fish marketing.

Social sciences were well represented and there seems to me a greater willingness among Asian fisheries scientists to take people into account in fisheries management and fisheries studies. For example, a Bangladesh study showed that collection of *Penaeus monodon* postlarvae from the wild by small-scale operators resulted in a bycatch of 100 other organisms (mainly the zooplanktonic stages of valuable species of food fish and crustaceans) for every *P. monodon* caught. The solution being explored, however, was not to ban the method altogether and move straight to hatcheries, thus putting thousands of the very poor out of work immediately, but to work with the collectors to devise less destructive collecting methods and completely different livelihoods while examining the hatchery options.

One special symposium examined recent worldwide experiences in stock enhancement and the strict conditions which are recommended to ensure that enhancement is done responsibly. Japan and China are each using enhancement technology extensively, the former for nearly 90 different species and the latter for about 15 species of fish, such as the Chinese sturgeon (*Acipenser sinensis*, Acipenseridae), molluscs, crustaceans and plants. Whereas once this way of increasing production seemed like a distant dream, for many stocks it is now the chief means of ensuring production.

Papers at the Forum demonstrated clearly that freshwater fisheries and freshwater fish biodiversity face formidable challenges in Asia as elsewhere. Dams and barrages already on the Yangtse River in China have had a demonstrably negative effect on major fisheries species and on several large fish such as the Chinese sturgeon (*Acipenser sinensis*, Acipenseridae). Plans for the massive Three Gorges Dam, for barrages on the Mekong River and for flood control programmes in Bangladesh will likely devastate the freshwater fisheries and biodiversity across three major systems. Worldwide, freshwater fish are among the most vulnerable groups and between 500 and 700 species of freshwater fish have become threatened this century. Some scientists felt that the AFS could serve as a useful, scientific, objective forum to speak out on the loss of these vital elements of the economic and ecosystem well-being of Asian fresh waters.

The gains and developments for fish production in Asia in the last several decades were extremely well described by Dr Veravat Hongkul (FAO's fisheries director for Asia and the Pacific) in his keynote address to the Forum, but he pulled no punches