

# The Asian Development Bank and WorldFish



## Net Gains of Partnership - to improve livelihoods and bolster regional development, cooperation and trade

### The challenge of sustainable fisheries

**S**ustainable rural livelihoods do not just happen. They must be carefully nurtured and securely founded on sound science to guard against destructive consequences, foreseen or not. Fisheries in particular require management

through robust partnerships because of their extensive and intimate interface with the natural environment and their expansion beyond the territorial claims of individual countries. The heart of a multilateral alliance for sustainably managing fisheries and aquaculture in Asia is the partnership between the Asian Development Bank (ADB) and the WorldFish Center.

Fish are crucial to the welfare of poor people the world over, nowhere more so than in Asia. The largest continent is home to 3.4 billion people, or more than half of humanity. Of the estimated 1

billion poorest people who subsist on less than a dollar per day, 630 million, or almost two thirds, live in Asia. Many could not survive without the contribution fish makes to their nutrition and livelihood.

Asians in general derive much of their dietary animal protein from fish, the share ranging from nearly a third or more in Bangladesh, Malaysia, Thailand and Vietnam to half or more in Cambodia, Indonesia and Philippines. Among the poor, fish is an even more dominant source of animal protein — sometimes the only source — and vital to health for the vitamins and other micronutrients it supplies.

The last extractive food industry, fishing is often the mainstay or supplementary subsistence activity of landless rural families with no other livelihood options. Yet overfishing and pollution threaten coastal fisheries across Asia, where fish stocks have commonly fallen

by 70% or more in the past quarter of a century. Also threatened are freshwater inland fisheries that provide the last hope of sustenance to the poorest in many local communities, though they yield less than a tenth of the fish captured in commercially exploited marine fisheries.

For many developing countries, fish is an important export commodity, generating foreign exchange with which to buy cereals and other food imports. Asian countries annually export over 7.6 million tons of fish worth more than US\$18 million. A substantial portion of this trade is within Asia, and Asia imports more fish than it exports. Asian exporters nevertheless supply 38% of fish imports to North America, 49% to Oceania, and more than 10% to Europe and Africa.

To meet this demand, aquaculture is growing rapidly in the region and will likely supply by 2020 more than 40% of the fish consumed in Asia. Freshwater aquaculture in particular is emerging as an Asian specialty. Production has more than tripled since 1990, and Asia now produces nearly 94% of the world's farmed freshwater fish. Freshwater aquaculture plays an increasingly vital role in Asia, but its further development depends on careful attention to economic viability, social equitability and environmental sustainability.

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### **Achieving the Millennium Development Goals**

Better livelihoods from fisheries, both captive and cultivated, can help eradicate extreme poverty and hunger, finance primary education, and empower the women who work in them. Nutrition from fish reduces child and maternal mortality and helps people affected by HIV/AIDS resist secondary infections and respond to anti-retroviral drugs. Threats to marine and inland fisheries must be turned back to ensure environmental sustainability. Finally, answering the need for cross-border and

regional cooperation to address fisheries-related environmental issues helps advance a global partnership for development.

### **The mission of The WorldFish Center**

The WorldFish Center defines its mission as reducing poverty and hunger by improving fisheries and aquaculture. Recognizing that success in Asia is central to achieving its mission, the Malaysia-based center concentrates much of its work in its home region. Between 2003 and 2005, projects in Asia accounted for 68% of the WorldFish research budget. Sixty-seven percent of WorldFish's partners among national aquatic research systems (NARS) and nongovernmental organizations (NGOs) are in Asia. In all, WorldFish works in Asia with more than 70 regional and international organizations and advanced research institutes (ARIs). Since 1999, the center has trained more than 14,000 research and extension partners, 35% of them from NGOs, 19% from NARS, 2% from ARIs, and 44% farmers and fishers.

The WorldFish strategy is to build the capacities of partner organizations and support them with public goods arising from its core competencies. WorldFish assesses and analyzes fisheries, watersheds, and their management; develops and manages online databases; and refines appropriate aquaculture technologies and methods of improving fish strains and restocking coral reefs.

Established by the Rockefeller Foundation in 1977, WorldFish became an autonomous Future Harvest center of the Consultative Group on International Agricultural Research (CGIAR) in 1992. In 2000, WorldFish moved its headquarters from the Philippines to the island of Penang in Malaysia, the country in which it held its first Fish for All Summit in 2002. The summit won that year's CGIAR Communications Award for highlighting the key role of fish in the diets of a billion of the world's poor and the livelihood of millions. Subsequent summits in the Philippines, India and Nigeria have further attracted the attention of senior political leaders, policymakers and scientists to the prospects for poverty and hunger alleviation through improved fisheries and aquaculture.

## Partnership with the Asian Development Bank (ADB)

ADB is a steadfast partner of the WorldFish Center, having invested since 1987 more than US\$7.6 million in WorldFish projects. Like ADB, WorldFish organizes its work regionally, maintaining an office for South Asia in Dhaka, Bangladesh; the Pacific in Noumea, New Caledonia; and the Greater Mekong Subregion in Phnom Penh, Cambodia. WorldFish combines East and Southeast Asia — two separate desks at ADB — under its headquarters in Penang and a Philippine country office in Los Baños. Additional country offices are planned for Indonesia and China.

WorldFish and ADB launched their longstanding partnership with work in freshwater fisheries. Following an initial regional technical assistance in 1987 on rice-fish farming systems, WorldFish and ADB embarked in 1988 on a highly successful effort to develop and disseminate in Asia genetically improved farmed tilapia (GIFT). The project included training personnel in large-scale private hatcheries. A recent survey commissioned by ADB found that, by 2003, conventionally bred GIFT and GIFT-derived strains of this native African fish accounted for 68% of total tilapia seed produced in the Philippines and 46% in Thailand. The internal rate of return on developing and disseminating GIFT technology was a highly favorable 70%.

A similar ADB-supported project to genetically improve several species of carp in Bangladesh, China, India, Indonesia, Thailand and Vietnam has entered the dissemination phase targeting the poorest consumers who favor carp for its low price and good taste.

Turning to the sustainable exploitation of coastal fish stocks in Asia, ADB funded a project to assemble data on the biological, social and economic status of coastal fisheries in Bangladesh, India, Indonesia, Malaysia, Philippines, Sri Lanka, Thailand and Vietnam. This information, combined with reviews of national policy, guided draft strategies to restore and sustain fish stocks. With Fisheries Resource Information System and Tools (FiRST) software developed to establish the national databases, WorldFish powers its integrated TrawlBase regional database. TrawlBase expands a WorldFish tradition of data accessibility exemplified by the

award-winning and highly collaborative FishBase. The world's premier information source on fish — and an unparalleled asset to cooperative aquatic research in Asia — FishBase attracts more than 14 million hits per month.

## Future opportunities to safeguard fish supplies

Recently completed ADB-supported research by WorldFish and 35 partner institutions considers strategies and options for increasing and sustaining fisheries and aquaculture production to benefit poor households in Bangladesh, China, India, Indonesia, Malaysia, Philippines, Sri Lanka, Thailand and Vietnam. The project has produced the Asia Fish model, which allows countries to project future supply and demand for cultured and wild fish stocks, for either domestic consumption or trade, and to plan interventions accordingly, both on their own and in cooperation with regional partners. WorldFish will participate in another ADB-supported project to help Indonesia, the world's largest archipelagic country, develop a 10-year plan that systematically addresses fisheries related resource management, environmental degradation and social development.

In Cambodia, the country that depends on inland fisheries more than any other in the world, ADB supported the WorldFish effort to establish and support that country's Inland Fisheries Research and Development Institute (IFREDI). This crucial capacity-building project has just completed its second phase. With ADB support, IFREDI and WorldFish studied the lake fish ecology of the Tonle Sap to predict drivers of change in fish production and engaged stakeholders to assess policy challenges following the implementation of community fishery reforms. In addition to achieving its primary goal of institutional strengthening, the project successfully introduced empirical research

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into policy and management debates that encourage national stakeholders to consider, for example, findings on income inequality among fishers and the sometimes surprising ways that changes in land use affect fisheries.

A newly launched WorldFish project supported by ADB will raise awareness of the effects of dams, weirs, and flood-control infrastructure on Tonle Sap hydrology and produce guidelines for maximizing returns from these investments without harming environmental sustainability. Another project proposes safeguarding the core areas and fish sanctuaries of the Tonle Sap Biosphere Reserve with a management system that reconciles fishing practices and locations with conservation goals.

A proposed project aims to develop innovative, sustainable livelihoods to broaden the options available to the scores of millions of poor Asians who live in coastal communities. Following the Sustainable Livelihoods Framework of the United Kingdom's Department for International Development, the project goes beyond fisheries to examine coastal livelihoods at their broadest, both agricultural and not. Initially, the framework and

guidelines developed by WorldFish and its partners will help guide rehabilitation efforts and investments by governments, donors and development organizations in communities affected by the Indian Ocean tsunami of December 2004, setting a course towards a more robust and resilient future for these vulnerable zones.

Another proposed project aims to develop new strategies for aquaculture in China, Indonesia, Malaysia, Philippines, Sri Lanka and Thailand. With the goal of providing by 2015 improved food sources for 100–250 million people and dependable livelihoods for 20 million of Asia's poor, the project will build on the success already achieved with genetically improved tilapia and carp by upgrading fish stocks, disseminating best production practices, and more firmly tying aquaculture development to rural livelihoods.

A separate aquaculture project specific to the Philippines proposes developing a strategy for sustainably advancing fish farming. The aim is to forge a coherent and integrated national framework to address the many challenges facing aquaculture in the Philippines and contribute to the government's long-term goal of alleviating poverty and facilitating sustainable development while protecting the environment — goals that ADB and the WorldFish Center share. ☺

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**Malaysia (Headquarters)**  
 Jalan Batu Maung, Batu Maung,  
 11960 Bayan Lepas,  
 Penang, MALAYSIA  
 Mail: PO Box 500, GPO  
 10670 Penang, MALAYSIA  
 Tel: (+60-4) 626 1606  
 Fax: (+60-4) 626 5530  
 E-mail: worldfishcenter@cgiar.org

**Bangladesh**  
 WorldFish Center - Bangladesh Office  
 Mail: House 22B, Road 7, Block-F, Banani,  
 Dhaka 1213, BANGLADESH  
 Tel: (+880-2) 881 3250, (+880-2) 881 4624  
 Fax: (+880-2) 881 1151  
 E-mail: worldfish-bangladesh@cgiar.org

**Cambodia**  
 WorldFish Center - Greater Mekong  
 Mail: PO Box 1135 (Wat Phnom),  
 Phnom Penh, CAMBODIA  
 Office: #35, Street 71 (Corner  
 of Mao Tse Tong Blvd. )  
 Sangkat Beng Keng Kang 1,  
 Phnom Penh, CAMBODIA  
 Tel: +855 23 223 208  
 Fax: +855 23 223 209

**New Caledonia**  
 WorldFish Center - South Pacific Office  
 Mail: c/- The Secretariat of  
 the Pacific Community  
 B.P. D5, 98848 Noumea Cedex,  
 NEW CALEDONIA  
 Tel: (+687) 262 000  
 Fax: (+687) 263 818  
 E-mail: worldfish-newcaledonia@cgiar.org

**Philippines**  
 WorldFish Center - Philippines Office  
 Khush Hall, IRRI College, Los Baños,  
 Laguna 4031, PHILIPPINES  
 Mail: MCPO Box 2631, 0718  
 Makati City, PHILIPPINES  
 Tel: (+63-2) 580 5659, (+63-49) 536 2701  
 Fax: (+63-2) 891 1292, (+63-49) 536 0202  
 E-mail: worldfish-philippines@cgiar.org

**Solomon Islands**  
 WorldFish Center - Solomon Islands  
 Gizo Office: PO Box 77,  
 SOLOMON ISLANDS  
 Honiara Office: PO Box 438,  
 SOLOMON ISLANDS  
 Tel: (+677) 600 22  
 Fax: (+677) 605 34  
 E-mail: worldfish-solomon@cgiar.org