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The Nature Conservancy marine conservation programme in the Asia-Pacific Region

by Heidi Kirkpatrick¹ & Chuck Cook¹

Despite heightened awareness and concern surrounding the live reef-fish trade, demand for live fish—and the destructive methods used to capture them—continues to present a daunting challenge.

Prompted by cyanide fishing incidents at two of its flagship conservation sites—Helen Reef in Palau and Komodo National Park in Indonesia—The Nature Conservancy (TNC) realised that unless cyanide fishing was addressed on a regional basis, the trade could easily continue its aggressive geographical expansion into other TNC sites, protected areas and coral reefs throughout the region.

Working with key NGO and government partners, the Conservancy has developed a two-tiered action strategy to address cyanide use and other destructive fishing practices on both regional and site-specific levels.

Regional action plan

TNC's regional efforts will be directed toward 1) promoting sustainable fisheries, 2) developing a preventive plan for Papua New Guinea, and 3) advocating policy reform.

Sustainable fisheries

TNC is working with aquaculture experts, Dr Nephronia Ogburn and Mr Damian Ogburn, to develop environmentally friendly grouper mariculture operations. This industry will provide alternative livelihoods for destructive fishermen as well as relieve pressure on wild stocks. With a goal of eventually gaining market share over wild-caught grouper, TNC plans to establish a grouper mariculture hatchery and demonstration centre in Indonesia that can be replicated across the archipelago.

The Conservancy is also conducting consumer-preference live reef-fish taste tests in Hong Kong, Taipei

and Shanghai. Comparisons of wild-caught to maricultured fish will help guide development of farmed fish that meet consumers' standards for taste, texture and appearance.

In addition to mariculture development, TNC is working with destructive fishers to divert them to sustainable pelagic fisheries and eco-tourism. These efforts are being pursued at Komodo National Park, but will serve as models for other threatened areas in the Asia-Pacific Region.

Papua New Guinea preventive plan

Dr Robert Johannes and Michael Riepen report that Papua New Guinea (PNG) is being looked to as the 'new frontier' for live reef fisheries. In response, TNC has initiated a prevention effort in PNG before the cyanide fishing industry can consolidate its foothold. The Conservancy is working with the PNG Government and local NGOs to draft and enact fisheries regulations to restrict use of poisons and compressed air and establish strict licensing requirements.

TNC will also join forces with PNG's Department of Environment and Conservation and marine-oriented NGOs, such as Conservation Melanesia, the Village Development Trust, the PNG Dive Association, the Motupore Island Research Department (University of PNG) and the Christianson Research Institute. This team will design and implement a major conservation education campaign to combat destructive fishing practices.

Policy reform

TNC will continue to pursue reform at the national level in Indonesia, the Philippines, PNG, United States, Hong Kong, and China, and at the regional level through the Asia Pacific Economic Cooperation (APEC). TNC is working to maintain a dialogue with

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APEC to seek regional solutions, including a regional ban on cyanide fishing. The APEC Fisheries Group is holding two workshops in 1997 to discuss destructive reef fishing. A workshop early in the year will focus on causes and potential solutions. Another workshop covering impacts will be held in October 1997.

Other initiatives

Local marine tenure in Indonesia

Indonesia's national government is responsible for establishment and enforcement of marine laws. However, effective government-based protection against destructive fishing practices by both foreign fisheries and local villagers is not practical in Indonesia's vast waters. Nor does this system address the varying circumstances of individual communities.

TNC advocates the reinstatement of traditional marine tenure where it existed and devising co-management systems for marine resource management in other areas. Through the World Bank's Coral Reef Rehabilitation and Management Project (COREMAP), the Conservancy is encouraging the Indonesian Government to transfer more control to local communities so that villagers can manage their own resources and participate in law enforcement. Where fishing communities possess secure, exclusive rights to fish in an area, they will be more likely to harvest on a sustainable basis, given the subsequent future benefits. These communities are also best positioned geographically to patrol against outside infringements.

Documentation

To raise awareness and encourage policy reform in the International Year of the Coral Reef in 1997, TNC hopes to document on film actual cases of sodium cyanide fishing and its effects on coral reefs. Target audiences will include government officials, live reef-fish buyers (aquarium and food), threatened communities, and the general public.

Certification

The Conservancy will collaborate with other organisations in the establishment of two separate certification programmes for the food and aquarium-fish trades. Both initiatives are being designed to encourage sustainable fishing practices. The World Wide Fund for Nature (WWF), Environmental Solutions International, TNC, National Aquarium, PETSMART, and others are supporting The Marine Aquarium Fish Council, an independent organisation that will set standards and oversee environmental certification and education in the aquarium industry. The Marine Stewardship Council, formed by WWF and Unilever, will establish market incentives via a certification system.

Site-based protection action plan

TNC will continue to work closely with local and national partners to protect four of the region's most

diverse and threatened sites from destructive fishing practices. These sites will serve as 'learning beds' to develop innovative approaches for effective marine resource management. Emphasis is on alternative livelihood development, education, and building the capacity of local partners to ensure long-term self-sufficiency.

Komodo National Park, Indonesia

Led by Dr Jos Pet, TNC's Komodo field office is dedicated to strengthening the marine resource management capacity of the Park Authority (under the Directorate of Forest Protection and Nature Conservation, PHPA), and to engaging local communities in planning for tourism and fisheries development. In the next two years, the Conservancy and the Park Authority will initiate the following activities:

- establish a zoning system to allow for a variety of marine activities (e.g., traditional subsistence fishing, research, tourism, mariculture and pelagic fisheries);
- launch participatory planning and co-management activities through workshops with PHPA and local communities; conduct community surveys; and, establish a local NGO;
- strengthen enforcement of Park regulations by coordinating the efforts of the Park Authority, police, the Army, fisheries services, and local communities; and
- conduct marine monitoring and research to provide information for updating the management plan and marine reserve system, including the rehabilitation of coral reefs.

In addition, TNC staff will work closely with the three enclaves inside the Park and adjacent communities to build support for the conservation objectives of the Park. This will best be accomplished by providing economic alternatives that 1) reduce exploitation of demersal and sedentary resources, 2) diversify fishing methods and target species via the development of pelagic fisheries and mariculture, and 3) enhance eco-tourism opportunities, such as marine safaris (e.g., bird, dolphin, whale and turtle watching), and an eco-lodge and dive centre.

Finally, the Conservancy and our partners are seeking funding for a three-year investigation of the short- and long-term effects of fishing with sodium cyanide and explosives on coral reef communities at Komodo National Park. If funding is secured, the project will include scientists from the Australian Institute of Marine Science (AIMS), DuPont and the University of Guam.

Palau, Micronesia

The Nature Conservancy is working with local NGO partner, Palau Conservation Society (PCS), to pro-

mote sustainable fisheries, including sports-fishing enterprises, in two states known for their exceptional beauty and robust fish stocks, Ngerchelung and Kayangel. Developing a catch-and-release sports fishing industry will help protect local fish stocks and will provide re-training for Palauan fishermen as sports fishing guides.

The two organisations are also participating in the establishment of the US\$12 million Coral Reef Research Center and Aquarium. The Center will offer conservation education and provide a venue for international and regional scientists to conduct applied marine research (including mariculture studies) that enhances coastal and marine conservation in the region. It will also have programmes to train Asians and Pacific Islanders in research and monitoring techniques.

Kimbe Bay, PNG

In Kimbe Bay, TNC is working in partnership with the West New Britain Tourist Bureau, the European Union and Walindi Plantation Resort (a local dive resort) to establish a small-scale conservation and research centre to be operated by a new NGO, Machonia Na Dari (Guardians of the Sea). The Centre will encourage local and international scientific research on the unique and highly diverse coral reef ecosystems of the bay.

Arnavon Islands, Solomon Islands

In the Arnavon Islands, the Conservancy and partners have worked closely on a sustainable development strategy to support three local communities

and their commitment to conservation. With TNC guidance, the communities, local and national governments, and regional partners came together to establish the Arnavon Marine Conservation Area, the first community-managed conservation area in the Solomon Islands.

To allow the area's reefs to recover, the conservation areas are now closed to harvesting for three years. In order to meet the communities' economic needs, the Management Committee will pursue development of a fisheries enterprise that will:

- target the under-exploited deep-slope finfish in the area;
- provide training and equipment to fishing groups in the three communities;
- establish fisheries centres to purchase their catch, provide cold storage and supply fishing equipment; and
- coordinate the transportation and sale of the fish to overseas and local markets.

Forging ahead with partners

The extensive analysis of the live reef-fish trade by Dr Robert Johannes and Michael Riepen coupled with the hard work of NGOs such as IMA-Philippines, has helped bring together an impressive consortium of partners. The Nature Conservancy looks forward to continued work with these important allies in the effort to protect the world's richest and most diverse coral reef habitats.

World Wildlife Fund for Nature cyanide project

by Jo Ruxton¹

The report on the live reef fish trade by Johannes and Riepen, released in November 1995, focused attention on Hong Kong's involvement in cyanide fishing; it is the world's largest importer of live reef fish for human consumption. Many of the target species destined for Hong Kong have been caught using cyanide. The WWF family is addressing the growing threat of this practice in the Asia-Pacific region.

WWF Philippines has been working with the International Marinelife Alliance – Philippines, WWF Indonesia, WWF Malaysia and WWF Hong Kong, along with WWF International's Endangered Seas Campaign, using their experience to address the problem in each of their countries. The Nature Conservancy is also working in this field, and it is

envisaged that each organisation will cover specific aspects so that each effort complements the other.

Early in 1997, WWF Hong Kong will recruit a full-time staff member to work exclusively on the cyanide issue for a six-month period and half-time for the following eighteen months.

The overall goal of the project is to conserve coral reefs and their associated fauna in the Indo-Pacific region through the promotion of sustainable non-damaging fishing practices, and, in particular, to stop the use of cyanide to capture target species for the live-fish food trade. Since Hong Kong is seen as driving the cyanide fishing industry, WWF Hong Kong will concentrate their efforts on the traders.

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