



Experts gather to save giant catfish



*Last chance to see: The giant Mekong catfish is disappearing from the wild.
Photo: Zeb Hogan.*

Experts met in Bangkok 23-24 August to devise a plan to save the giant Mekong catfish from extinction. The giant catfish, one of the world's largest freshwater fish and an icon of the Mekong River, is deemed to be close to extinction in the wild. Its precarious status is thought to be due to excessive fishing and, to a lesser extent, damage to its natural habitat.

The project *Development of a conservation strategy for the critically endangered Mekong giant catfish* will help coordinate various conservation initiatives that are underway in Mekong basin countries by both government agencies and private conservation organizations. Current efforts to save the catfish include captive breeding and restocking programs, and buy-back schemes where fishermen are paid to release captured fish alive. With only a handful of fish caught each year, very little is known about the biology of the

giant catfish. Even the location of its spawning grounds remain a mystery.

In the past there has been little coordination between conservation initiatives and their effectiveness is unknown. The new project aims to change this by bringing together the major players to develop an overarching conservation strategy for the giant catfish. Participants include the Fisheries Departments of Cambodia, Laos and Thailand, the Network of Aquaculture Centres in Asia-Pacific; the Mekong River Commission (MRC); the Food and Agriculture Organization of the United Nations; the Mekong Wetlands Biodiversity Program operated by the United Nations Development Program, the International Union for the Conservation of Nature and MRC; and the Imperial College of London. The project, which aims to develop a comprehensive conservation strategy within two years, is co-funded by the Darwin Initiative.

This is an exciting regional initiative to save one of the world's most endangered fishes from extinction. The catfish doesn't know national boundaries, and all players need to work together within the Mekong basin to conserve it effectively. Bringing together expertise in all aspects of conservation, from fisheries management to captive breeding, will help to develop a joint strategy to conserve this magnificent animal.

Additional measures to conserve the catfish could include modifying fishing practices to reduce accidental catch, establishing protected areas, genetic analysis to determine if there is a single or multiple stocks, conducting a genetic inventory of captive populations and establishing a 'gene bank' of frozen eggs and sperm.

A second meeting will be held in Cambodia on 12 December 2005. A collaborative website on the biology and conservation of the giant catfish is currently under construction, which will provide information on the strategy, joint initiatives and bring together a lot of the hard-to-get information. The site will be released shortly thereafter, at:

www.mekonggiantcatfish.org.

For more information about the initiative, please contact: Dr Kai Lorenzen, Senior Lecturer in Aquatic Resource Ecology, Imperial College, London.

Email: k.lorenzen@imperial.ac.uk.

Workshops on dissemination of better practice models for culture-based fisheries

Three workshops were held as part of the ACIAR-funded project *Dissemination of better practice models for culture-based fisheries* in Lao PDR, Cambodia and Indonesia between 9-18 October 2005. Culture-based fisheries have been identified as a major strategy for increasing food fish production in rural areas in these countries.

At the workshops it was very much evident that all three countries are very keen to develop culture-based fisheries and are expecting to initiate further R&D activities in this area with cooperation through NACA and with possible external funding.

The major findings and recommendations that ensued from the workshops were:

- The workshops helped to understand the scope of culture-based fisheries practices and the major differences between stock enhancement practices in large water bodies and culture-based fisheries practices. In general, there was agreement that stock enhancement of larger water bodies in all three countries has not been cost effective.
- It was felt that there is a need for information collation on existing practices that are akin to culture-based fisheries practices, which are wide ranging in each country.
- There is an urgent need to initiate R&D programs, particularly in Lao PDR, Cambodia and Indonesia where culture-based fisheries developments are a component of the government policies / strategies to enhance inland fish production supported by an agency such as ACIAR in cooperation with NACA in view of the experience of these two organisations in culture-based

fisheries development and extension in the region.

- There was general agreement that all steps should be taken to ensure that development and extension of culture-based fisheries practices impact minimally on biodiversity, and that as far as possible need to utilise indigenous species, the artificial propagation programs of which should be conducted through the adoption of a well planned broodstock management plan / strategy.
- All three countries were of the view that the draft manual on culture-based fisheries practices will be of value and that steps should be taken to publish it, and that in due course the manual could be adopted to prepare country-specific manuals.
- The draft manual on culture-based fisheries prepared by the resource persons and discussed at the workshops was accepted with suitable modifications for adoption by each country. The manual will be translated into Laotian with funding support from the Mekong River Commission Fisheries Program, ACIAR and NACA.
- Finally, the culture-based fisheries associated work falls within the most recent recommendation at the 8th meeting of the Technical Advisory Committee of NACA, in that R&D programs on inland reservoirs and lakes should be developed in the next five-year NACA work plan.

Prof. Sena S De Silva, Deakin University, Australia; Prof. Upali Amarasinghe, Kelaniya University, Sri Lanka; Mr. Nguyen Hai Son, Research Institute for Aquaculture No.1, Vietnam; and Dr. Francis Murray,

Stirling University, UK, acted as the resource persons for the workshops. Dr Thuy T.T. Nguyen of NACA coordinated the project.

Dr Chris Baldock, 1947-2005

We all in NACA are saddened to learn of the passing of a great friend of NACA, Dr Chris Baldock, who died on the 6 July 2005. Chris was a pioneer in aquatic epidemiology, opening a new area of study for aquatic animal scientists and development workers in the region, but more than that he was a wonderful person and gifted teacher, who will be missed so much by all of us around the region. With a heavy heart, we join with all our friends and colleagues throughout Asia, and the world, in sending condolences to Chris's family, dear Trish, Sarah, Christian and Patrick, at this time of great sadness. We will be preparing a more detailed tribute with our friends in FAO, AFS and others in the near future. The Ausvet web site contains and to send tributes, visit: <http://www.ausvet.com.au/>.

Join our online
website
community

www.enaca.org

MAHSEER 2006

The mahseer (*Tor* spp) are a very important group of fish in Asia, with about 17 described species distributed throughout the region. Some species support artisanal fisheries and most are excellent game fish. Mahseer are also of immense cultural significance to some nations. In recent years there has been an increasing interest on the culture of selected species, as food fish and for the aquarium trade as well as for conservation purposes.

Mahseers generally occur in clear, pristine, flowing waters. The developments in the watersheds in the last 20 to 30 years have affected the habitats of many mahseer species and consequently in certain regions they are threatened, and nations have begun to instigate long-term conservation strategies to preserve and protect them in the wild. In general there is increasing interest on mahseer species amongst researchers, developers, planners and conservationists.

The Malaysian Fisheries Society will convene the first "International Symposium on Mahseer", 29-30 March 2006 in Kuala Lumpur, Malaysia, with a view to provide a forum for exchange of information and ideas to determine strategies for mahseer aquaculture and conservation. The symposium is proposed with four sessions: Policy and management, biology and culture, conservation practices and economic importance.

Further information on registration and submission of papers can be obtain at the Malaysian Fisheries Society website: <http://www.vet.upm.edu.my/~mfs/>. Prospective presenters should send an abstract to the Chair of the Scientific Committee, Prof. Sena De Silva, by 30 November 2005, at senadesilva@deakin.edu.au.

The symposium is being organised in collaboration with the Malaysian Department of Fisheries and Department of Wildlife, the Network of Aquaculture Centres in Asia-Pacific and the Universiti Putra Malaysia.

MOU signing on conservation of kelah (mahseer) species in Malaysia and Indonesia

On the 6th of September, the signing of a Memorandum of Understanding (MoU) between Kelah World (M) Sdn. Bhd., the University College of Science and Technology Malaysia (KUSTEM), the International Islamic University Malaysia (UIAM) and Bung Hatta University Indonesia was held at the Observation Desk of Putrajaya Botanical Garden. Prof. Dato Mohamed Shariff, Dr. Mohamed Din and Dr. Annie Christianus attended the ceremony as observers representing the Malaysian Fisheries Society. This ceremony was hosted by Kelah World's Chairman Y. Bhg. Dato' Ahmad Haron and attended by the Minister of Higher Education, Y. B. Dato Dr. Hj. Shafie Bin Mohd. Salleh.

The MoU is an effort by Kelah World to promote the conservation of Kelah, a mahseer species in Malaysia.

The activity is related to NACA's current involvement in aquaculture development and conservation of mahseer (*Tor*) species in Sarawak, Malaysia, under the Deakin/NACA/Sarawak Government initiative, and the proposed international symposium on mahseer for which NACA is a co-sponsor.

New president of Iran Fisheries Organization

In a ceremony held in the Conference Hall of Iran Fisheries (Shilat) HQ in Tehran, H. E. Eskandari, Minister of Agriculture-Jihad lauded the achievements of Mr. Saeedi, the outgoing President of Iran Fisheries Org. (Shilat), during his two-year period of management. He introduced Dr. Shaaban-Ali Nezami as the new President of Shilat Organization and Deputy Minister.

Application of molecular genetics in aquaculture and inland fisheries management

NACA, in collaboration with the FAO, Kasetsart University, MRC, the WorldFish Centre and Department of Fisheries, Thailand, will organise a training workshop on *Application of molecular genetic techniques in aquaculture and inland fisheries management* from 30 November to 9 December 2005. The workshop will bring together 20 participants with a view to improving capacity of NACA member countries in the use of modern molecular genetic tools in aquaculture and inland fisheries management, as well as biodiversity related research.

The workshop will be held at the Fish Genetics Laboratory, Walailak Centre, Kasetsart University, Bangkok, Thailand. A training manual will be prepared by Dr. Thuy T.T. Nguyen, coordinator of the workshop, in conjunction with Dr. Devin Bartley (FAO), Professor Uthairat Na-Nakorn (Kasetsart University), Dr. Wongpathom Kamornrat (Department of Fisheries, Thailand).

Mr Eskandari indicated that there would be increasing emphasis in Shilat on decentralization and in supporting grass-roots NGOs of fishers and farmers in future.

Dr. Nezami is a well-known researcher with expertise in both hydrobiology and fisheries.

Source: <http://www.iranfisheries.net/english>.

Workshop on the fishery management tool *EnhanceFish*

Regional Mariculture Development Workshop in China, March 2006

Imperial College London in association with the STREAM Initiative of NACA hosted a workshop on the *EnhanceFish Toolkit* from 17th - 21st October at the NACA Secretariat in Bangkok. EnhanceFish is a decision support tool for the quantitative assessment of aquaculture-based fisheries enhancements. It was developed by Dr Kai Lorenzen and Dr Paul Medley.

EnhanceFish can be used to:

- Evaluate whether the release of hatchery fish are likely to increase yields in a fishery for which enhancement has been proposed.
- Assess the likely impacts of releases on the wild stock of the target species (where one exists).
- Analyse data from release experiments to estimate population parameters.
- Identify optimal release and harvesting regimes.

The EnhanceFish toolkit has three components:

- The EnhanceFish software tool. This contains a mathematical population model for enhancing fisheries and is used to carry out quantitative analyses. Underlying EnhanceFish is an extended dynamic pool fisheries model with explicit representation of size-dependent mortality, density-dependence in the recruited phase, and differences in population parameters of wild and stocked population components. EnhanceFish provides empirical distributions of key parameters to allow prognostic evaluations, and conduct risk assessments.
- The EnhanceFish manual, which explains the principles underlying the EnhanceFish model and assessment methods. It also

provides guidance on the practical use of the tool, including worked examples.

- The EnhanceFish guide, which provides guidance on how to link the quantitative analyses supported by EnhanceFish to the management and development of enhancements.

EnhanceFish is designed for use by fisheries and other natural resources professionals including, for example, government officers, NGO staff or development consultants. Use of EnhanceFish requires understanding of basic concepts of fisheries stock assessment, which are outlined in the manual. It does not require specialist knowledge of mathematical skills.

The workshop was attended by fishery professionals from across Asia including Cambodia, LaoPDR, India, Iran, Philippines, Thailand and Vietnam. Participants learnt about the use of EnhanceFish and considered its application to management within their areas of work.

To learn more about EnhanceFish please visit the project page at <http://www.streaminitiative.org/EnhanceFish.html>. A CD of the workshop which includes the EnhanceFish programme is available by contacting paul.bulcock@enaca.org. A briefing on EnhanceFish is available for download from:

http://www.streaminitiative.org/pdf/en/EnhanceFish_briefing.pdf

NACA and the Food and Agriculture organization of the United Nations (FAO) have agreed to arrange a regional mariculture development workshop, to be held in Shenzhen, Guangdong Province, China from 6-10 March 2006. The title of the workshop is *The future of mariculture: A regional approach for responsible development of marine farming in the Asia-Pacific Region*.

The aim of this mariculture workshop is to bring together expertise from major producing countries to establish a collaborative research and development program that will support responsible mariculture, and social and economic development, among coastal communities in the region.

Topics to be covered are:

1. Identification of key issues, business opportunities and constraints faced by the mariculture sector.
2. Identification of strategies required to address such key issues.
3. Establishment of appropriate foundations for national and regional action programmes to implement such strategies, including:
 - National research and development initiatives;
 - Regional/national research and development partnerships working on key researchable issues;
 - Communication activities;
 - Education and training activities;
 - Market/fair trade opportunities/partnerships identified; and
 - Investment opportunities.

For further information about the workshop please contact Koji Yamamoto, email koji@enaca.org.

Invitation to apply for position of Director General of NACA

The Network of Aquaculture Centres in Asia-Pacific (NACA) invites applications for the post of Director General of the Organization. The successful candidate shall serve for the period 1 April 2006 - 31 March 2011.

NACA is an intergovernmental organization, at present with 16 member governments and one associate member, operating on the principle of technical cooperation. It is dedicated to social and economic development through the application of sustainable aquaculture.

The candidate shall have a demonstrated ability to work with various government fisheries and related agencies and importantly, sensitivity to and understanding of their different procedures and systems; to engender cohesiveness and promote cooperation in aquaculture development among governments and their constituents; and to develop and maintain functional collaboration between the NACA Organization and other technical organizations, development assistance agencies, and donor organizations involved in aquaculture development at the national, regional and global levels as required.

The applicant will possess the ability to muster and orchestrate the expertise and inputs of professionals and scientists working in various national centres and agencies specifically within the Asia-pacific region in the pursuit of the goals of the Organization. Likewise, it is also essential for the candidate to be able to coordinate, enthuse and manage effectively a multi-national secretariat staff.

The applicant should have senior level experience in aquaculture development. An experience with any sub-regional, regional or international organization, and in network development and operation for scientific and economic development purposes, is highly desirable.

The basic qualifications of the post are a Masters degree and 15 years experience or a PhD degree or equivalent and 10 years experience.

The post carries a starting basic remuneration package of 2,500 US\$ a month plus benefits. The package includes 13th month pay, medical and accident insurance, educational allowance for children, relocation allowance, and a one-month paid leave every two years. The Government of Thailand accords diplomatic considerations to the staff and immediate family members. The salary is free of Thai government tax.

For the duties and responsibilities of the Director General, see the attached. Further information on NACA is found in on the NACA website, www.enaca.org (see 'About NACA').

Send, **not later than 31 December 2005**, a written application in hard or electronic copy, with two recent photographs, to the Secretary of the Search Committee, NACA c/o Pedro.Bueno@enaca.org or pete.bueno@gmail.com

Terms of Reference

The Director General shall be appointed by the Governing Council and shall be the legal representative of the Organization. In accordance with the policies and decisions of the Governing Council s/he shall:

1. Direct the work of the Organization and be responsible for its management;
2. Prepare and organize the sessions of the Governing Council and Technical Advisory Committee, and all other meetings of the Organization, and shall provide the secretariat therefore;
3. Ensure coordination among the Members of the Organization;
4. Organize conferences, symposia and other meetings in accordance with approved programme of work;

5. Initiate proposals for joint action programmes with regional and other international bodies;

6. Ensure the publication of research findings, training manuals, information print-outs and other materials as required;

7. Collaborate and cooperate with the Directors of the Centres in the formulation and implementation of specific programmes of research and in their supervision and monitoring;

8. Be responsible for personnel appointment and management according to approved procedures;

9. Exercise overall control over all experts and consultants assigned to NACA;

10. Organize training programmes and assist in the selection of candidates for training at the Centres and young scientists;

11. Seek funding for the organization's activities, ensuring liaison with donor agencies, and mobilizing technical and other support;

12. Prepare reports on the work of the Organization, together with audited accounts, for submission to each annual session of the Governing Council;

13. Prepare a draft programme and budget for the following year, to be submitted to each annual session of the Governing Council;

14. Take action on other matters consistent with the objectives of the Organizations;

15. Perform any other function as may be specified by the Governing Council.

MPEDA expands program on shrimp farmer clubs

Australian research agency joins MPEDA/NACA better practices program in shrimp health

The small shrimp farmers of Andhra Pradesh have given the Marine Products Export Development Authority a good reason to extend the four-year shrimp health management project, both in terms of time and geographical coverage.

The project has stimulated a widespread sharing of experiences from Andhra Pradesh, within Andhra Pradesh and with other states in India, through special training and awareness programs, and through information dissemination in newsletters and various media. Expansion has seen the development of new “Village demonstration” programs and formation of aquaculture/farmer societies in Tamil Nadu, Orissa, Gujarat and Karnataka. Farmers in one village of Gujarat have already harvested a good crop.

The concept of aquaculture and better management practices or BMPs has been introduced to a large number of farmers, including modified extensive and high input farming systems in Andhra Pradesh. The 2005 village demonstration activity was extended to 30 shrimp farming clusters in 15 villages. In total, 470 hectares of pond area comprising 930 ponds belonging to 635 farmers, who are members of 18 Aquaculture Clubs, were directly under the technical guidance of the MPEDA/NACA team. Harvesting in 95% of the ponds was completed by end of July. The disease incidence was significantly reduced (only in 15% of ponds) with 85% of ponds successfully harvesting. Nearly 400 tons of high quality shrimp valued at about Rs 80 million (US\$ 1.75 million) at farm gate were harvested from these 18 aquaculture clubs.

Meanwhile, a regional project of the Australian Center for International

Agricultural Research (ACIAR) continues to support the widespread uptake of BMPs across the region, including the collaborative MPEDA/NACA project in India. A new ACIAR project has also infused this productive collaboration with a new dimension – research, training, and standardization of PCR diagnostic techniques and laboratories.

During 2005, pilot activities on traceability and HACCP were also conducted in selected aquaculture clubs. A quality assurance system addressing antibiotic use and alleviating muddy smell was developed and implemented with the help of MPEDA laboratories. The initiative attracted foreign buyers from Canada and Japan who showed interest in purchasing the produce. The experiences in 2005 and the collaboration established with importers provide the basis for development of better market access arrangements for the coming years for aquaculture clubs operating BMPs, an additional incentive for the small-scale farmers to adopt BMPs and join aquaculture clubs. During 2005-2006, MPEDA and NACA plan a special study on traceability and certification, to explore opportunities for organic and fair-trade marketing of the products of the clubs.

Better management practices (BMPs) have been successfully promoted among hatcheries, and support was provided to the MPEDA code of practice in hatcheries supplying seeds to aquaculture clubs in five states. In particular, the contract hatchery system introduced by the project has been recognized as a valuable management intervention by both the hatchery operators and farmers. About 35 million seed produced under this system have been purchased by

aquaculture clubs under the MPEDA/NACA project.

The season's crop in Andhra Pradesh is being analysed by MPEDA/NACA field assistants for a report to be discussed at the planned National level workshop in 2006. This national level workshop will review the results of 2005 crop obtained from all the five coastal states and disseminate the lessons learnt widely across the shrimp farming states of the country. An interesting idea that has drawn much attention is the establishment of an extension agency - paid and owned by the farmers - to support aquaculture club development and give technical advice on their operations. The project has put into place a well-trained group of young Indian technicians and professionals, only occasionally backstopped by regional and national experts provided by NACA. This team could very well form the core of such a farmer-owned extension agency.

A special study in certification, including review of the potential for organic and fair-trade certification, is being readied for later this year.

**More than 650
aquaculture
publications...**

...for free

www.enaca.org

PCR training and inter-calibration in India

Two PCR training workshops and PCR calibration exercises (voluntary inter-laboratory ring testing) will be organized over a period of two years in India as part of the project *Application of PCR for improved shrimp health management in the Asian region* (see NACA Newsletter July-September 2005). The PCR training workshop and inter-calibration activities in India will largely be funded by MPEDA and technically supported by the project partners. The first PCR training workshop will be held from 17-21 October 2005 at CIBA, Chennai. A total of 24 participants will be trained in this programme. Resource experts from India, Australia, and Thailand will conduct the PCR training workshop.

The objective of the workshop is to provide training on PCR technology in order to improve the participant's understanding on the subject and to ensure quality and reliability in their results. The training workshop will have lecture and practical components. The practical component will be limited to 24 participants (21 from PCR service providing laboratories in India and 1 each from Sri Lanka, Bangladesh and Myanmar). The course curriculum will follow a format successfully implemented in several Asian countries and further developed at Mahidol University, Thailand and CSIRO, Australia. The same participants will attend the course on 2 consecutive years (Year 1 - basic training; Year 2 - assessment, review and advanced training). Considering that most technicians in PCR service providing labs are trained on the use of PCR kits rather than on PCR technology, the training workshop hopes to provide basic training on PCR procedures including basic laboratory procedures to technical personnel of the PCR service providing laboratories.

There will be two voluntary inter-calibration exercises conducted following each of the training

workshops. During the workshop, a detailed planning for the voluntary ring testing exercise (inter-calibration) will be developed in consultation with project partners and PCR service providing laboratories. The inter-calibration exercise would be conducted following international standards and procedures.

A central coordinating laboratory will be selected. Standard WSSV-infected and uninfected tissue extracts will be prepared and distributed to participating laboratories. Laboratories will be required to analyse the samples using a PCR test of their own selection and report on the results of the analysis to the central laboratory for collation. Each participating lab, would process the samples in their own facilities and with their own equipment and staff. The overall results of the inter-calibration will be made available to all participating laboratories but the performance of individual laboratories will remain confidential. All participating laboratories will be provided feedback on the test performance and, if necessary advice on how to improve test performance. The inter-calibration exercise is expected to lead to and provide a model for a future program for PCR laboratory accreditation. Ring testing would be a first step towards an accreditation program, where laboratories would be evaluated based on their facilities, equipment available and its routine calibration.

This PCR training workshop and inter-calibration activity will compliment previous and continuing activities of national (MPEDA, CIBA, College of Fisheries, Mangalore) and international organizations (NACA, ACIAR and FAO) in India.

Key partners for the regional project include ACIAR, CSIRO and AusVet Services in Australia; MPEDA, CIBA

and Mangalore Fisheries College in India; Mahidol University, BIOTEC and NACA in Thailand. The project is funded by the Australian Centre for International Agricultural Research (ACIAR). To know more about the programme, contact Dr CV Mohan at mohan@enaca.org

CIFA co-hosts monitoring and evaluation workshop

The Central Institute for Freshwater Aquaculture (CIFA) co-hosted with NACA's STREAM Initiative the final project workshop for the DFID project *Promoting the Pro-Poor Policy Lessons of R8100 with Key Policy Actors in India* in Bhubaneswar, Orissa, India, 30-31 August 2005. The workshop was attended by 55 participants including senior figures from national and state fisheries administration, communities, government and NGO service providers and managers of the recently established One-stop Aqua Shops (OAS). The focus was on the stakeholder's learning and insights regarding outcomes and impacts from R8334 as well as earlier associated projects. Specific issues included a discussion on the recently drafted policy briefs on "Building-Consensus" and "Livelihoods Approaches" and plans for scaling-up of the One-stop Aqua Shop service within Eastern India. The workshop report will be available soon in the form of a monitoring and evaluation learning report. To learn more about the project and the One-stop Aqua Shop service please visit the India page of the STREAM Virtual library: <http://www.streaminitiative.org/Library/India/india.html>

Tsunami update

Support to tsunami recovery has been a priority NACA activity throughout 2005, with projects underway in Indonesia, Thailand and Sri Lanka (see the January, April and July issues of the NACA Newsletter). Unfortunately even though we are nearly one year down the track, there is still a great need for assistance in many areas and so the network continues to implement new projects in support of recovery, and to build on those already implemented. We are pleased to welcome Rotary International as a new partner assisting the network with recovery activities in Thailand.

Earlier this year NACA assisted several communities on Koh Yao Noi, in Phang Gna Bay Province of Thailand to rebuild and restock fish cages destroyed in the disaster. As a follow up measure, the Thai Department of Fisheries (DOF) organized a training course on basic farm operation and better management practices for 12 fish farmers through the Krabi Coastal Fisheries Research and Development Centre between 30 June and 2 July. The centre, together with support from Rotary International, will also provide long-term support through assistance towards i) obtaining hatchery-reared marine fish fingerlings, ii) provision of technical advice on fish health management and live-fish handling, iii) advice to increase their marketing capacity and abilities of local farmer groups, and iv) exploratory work on use of artificial feeds as an alternative food source.

Rotary International has undertaken to support a number of other activities to assist fishing and aquaculture communities on Koh Yao Noi. These include provision of a communication system (VHF radios) comprising 40 transceivers and a base station set to allow fishers to be advised of natural disaster warnings and report illegal fishing activities to police, in order to facilitate safety at sea and to protect natural resources against depredation by the industrial fleet entering the zone reserved for small-scale fishers. The

damaged house of a victim will be renovated and used as a community-training centre cum "Tsunami Rehabilitation" office. Three children and three mothers who lost their husbands in the tsunami will receive scholarships for 5 years and grants for new occupations, respectively. Rotary International will also assist with the expansion of activities piloted on Koh Yao Noi to other communities on Koh Lanta Noi, and Tambon Kantang Tai. This will include assistance to buy materials and inputs to restart cage culture for a 30 people in the Kong-Na cage culture group and 16 in the Tah-rua cage culture group. Community revolving funds will be loaned to 17 eco-tourism group members for reconditioning of their fishing boats to accommodate tourists during tour season and a group of 20 women will be assisted to enter alternative non-fisheries livelihoods.

Finally, Rotary International will assist NACA and the CHARM project to facilitate public hearing workshops with affected communities on Koh Lanta Noi and Tambon Kantang Tai and local government authorities leading into their preparation of their annual development plans.

The NACA Secretariat would like to thank Rotary International for their generous support to the tsunami affected communities of Thailand.

STREAM supports livelihoods analysis in Sri Lanka

With funding from the Italian government to support the Food and Agriculture organization (FAO) in tsunami rehabilitation activities in Sri Lanka, NACA's STREAM Initiative partnered with the FAO Emergency and Rehabilitation Unit in the implementation of livelihoods analysis activities with communities in the tsunami affected districts of Hambantota, Ampara and Batticaloa. STREAM assisted with the recruitment



Network of
Aquaculture
Centres in
Asia-Pacific

Mailing Address:

P.O. Box 1040,
Kasetsart University
Post Office
Ladyao, Jatujak,
Bangkok 10903
Thailand

Phone +66 (2) 561 1728

Fax +66 (2) 561 1727

Email:

publications@enaca.org

Website: www.enaca.org

NACA is a network
composed of
16 member governments in
the Asia-Pacific Region.

This newsletter is sent free
to governments, libraries,
development agencies and
other interested parties
on request.



Copyright NACA 2005.
You may copy and distribute
this publication with
attribution of NACA as the
original source.