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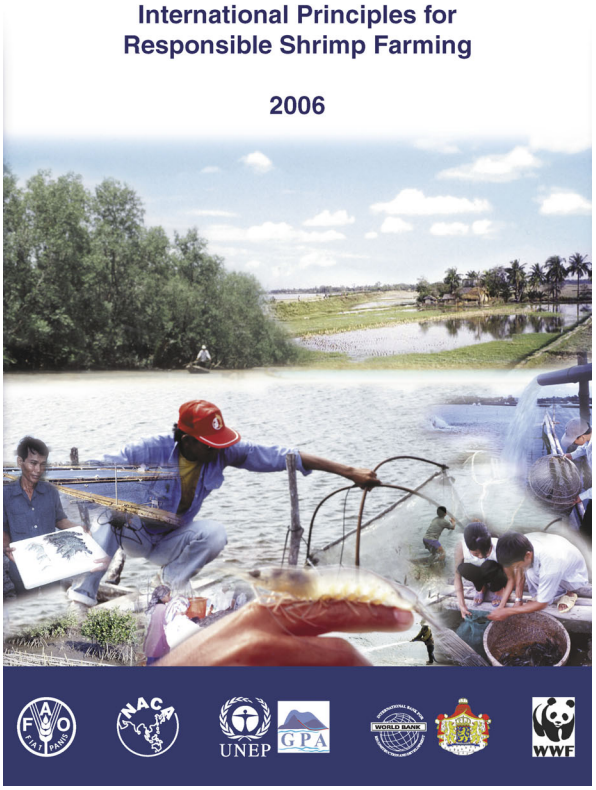
International Shrimp Farming Principles welcomed by countries

International Principles for Responsible Shrimp Farming, developed by the Shrimp Farming and the Environment Consortium Program (FAO, NACA, UN Environment Programme, the World Bank and WWF) were presented at the 3rd session of the FAO Committee on Fisheries Sub-Committee on Aquaculture in New Delhi, India, 4-8 September 2006. A group of 50+ countries attending the meeting welcomed these non-binding international principles for responsible shrimp farming which offer guidance on how to reduce the sector's environmental impacts while boosting its contribution to poverty alleviation. While not slated for formal adoption by national delegations participating the meeting, there was general consensus that the principles should be relied upon as a global point of reference for aquaculture policy and development.



Download the principles from the NACA website.

A number of similar, less ambitious frameworks are already being used by governments and private-sector buyers and impose standards aimed at ensuring that farmed shrimp are raised in an environmentally friendly way and that shrimp culture operations do not have negative impacts on local communities. However the proliferation of such schemes has posed a number of challenges. They are not harmonized, which means that exporters in the developing world often must struggle to adapt to new and changing rules as they try to bring their farm-raised shrimp to different overseas markets.

The principles were the outcomes of efforts through stakeholder workshops, consultations and case studies involving governments, private sector, academia and NGO's totalling over 100 researchers in 20 countries over 5 years. The principles are the first-ever attempt to provide an overarching international framework for improving the sustainability of the shrimp farming industry. The new principles will help pave the way for a more common vision of how we should define responsible shrimp farming, globally, and can also serve as a point of reference for governments, non-governmental organizations and private industry who are developing systems to certify farm-raised shrimp as eco-friendly or sustainable, or who are looking to harmonize systems that are already in place.

http://www.enaca.org/modules/wfdownloads/singlefile.php?cid=142&lid=735

Principles to Practice

As a part of the technical collaboration between MPEDA, NACA, ICAR and ACIAR on shrimp disease control in India, village demonstration programmes are being conducted from 2002 onwards. This project has provided a good example of translating the international principles into specific better management practices (BMPs)

adapted to local farming conditions and ensuring their implementation by relevant stakeholders. Specifically, they show evidence of the advantages of small farmers being organized (aqua-clubs/associations/socities), sharing resources, helping each other and adopting BMPs. The results range from improved yields, less impact on the environment, wholesome products, and better relations among players in the market chain. In short – the implementation of the better management practices has provided benefits to the farmers, environment and society. To learn more about the project, visit the project site at http://www.geocities.com/abchmohan/.

Discussions on the establishment of a "Mahseer R&D Centre"

A Sarawak Government - Deakin University - NACA project team on "Induced breeding of indigenous fish species for aquaculture and conservation", met with the Deputy Chief Minister Datuk Patinggi Tan Sri (Dr), Alfred Jabu Anak Numpang, Deputy State Secretary Datu Wilson Baya Dandot, Permanent Secretary for the Ministry of Modernization of Agriculture Datu Jaul Samion, Acting Director of Agriculture Mr. Paul Vincent Ritom and other officials of the State Government of Sarawak, at an dinner kindly hosted by the Deputy Chief Minister. The NACA team consisted of the Director General of NACA, Prof. Sena De Silva, Dr. Brett Ingram, Dr. Ng Wing Keong and Dr. Thuy Nguyen.

During the discussions the Deputy Chief Minister indicated his support for a proposal to establish a Mahseer R&D Centre at Tarat, Sarawak, as agreed upon and included in the Mahseer Declaration of Kuala Lumpur, and to bring about the required improvements to raise the facilities to an international standard. He also expressed his desire to work in close collaboration with NACA to make the "Mahseer R&D Centre" a useful entity in achieving its objectives.

These discussions were followed up at a meeting with the Acting Director of Agriculture and officials of the Inland Fisheries Division where details of the modus operandi of establishing a R & D Center was discussed in detail, including the role that NACA could play in this regard and sustaining the activities of such a center.

Left to right: Mr. David Tinggi, Dr. Brett Ingram, Dr. Ng Wing Keong, Datu Wilson Baya Dandot, Prof. Sena De Silva, Datuk Patinggi Tan Sri (Dr) Alfred Jabu Anak Numpang, Dr. Thuy Nguyen, Datu Vasco S. Singkang, Datu Jaul Samion, Mr. Stephen Sungan, Mr. Paul Vincent Ritom.

Microsatellite DNA markers for mahseer are now available

Nguyen, T.T.T., Baranski, M., Rourke, M., McPartlan, H. (2006). Characterisation of microsatellite DNA markers for the mahseer species, Tor tambroides and cross-amplification in other four congeners (T. douronensis, T. khudree, T. putitora, and T. tor). Molecular Ecology Notes, in press.

This study reports the isolation and characterization of microsatellite DNA markers in a mahseer species, *Tor tambroides* (Pisces, Cyprinidae). Of a total of 14 loci evaluated, 10 were polymorphic in *T. tambroides* samples, with an average of 2.86 alleles per locus. Deviations from Hardy–Weinberg equilibrium were observed at one locus and there was no indication of linkage disequilibrium among loci. A high level of cross-amplification among four congeners was achieved, with 12 loci successfully amplifying and 11 loci showing polymorphism in at least one other species. These markers will be a useful resource for population genetic studies and broodstock management of closely related mahseer species. To obtain the full paper write to thuy.nguyen@enaca.org.

First study on genetic variation of the critically endangered Mekong giant catfish

U. Na-Nakorn, S. Sukmanomon, M. Nakajima, N. Taniguchi, W. Kamonrat, S. Poompuang & T. T. T. Nguyen (2006). MtDNA diversity of the critically endangered Mekong giant catfish (Pangasianodon gigas Chevey, 1913) and closely related species: implications for conservation. Animal Conservation, 9(4): 483-494.

Catfishes of the family Pangasiidae are an important group that contributes significantly to the fisheries of the Mekong River Basin. In recent times the populations of several catfish species have declined, thought to be due to overfishing and habitat changes brought about by anthropogenic influences. The Mekong giant catfish, *Pangasianodon gigas* Chevey 1913, is listed as critically endangered on the IUCN Red List. In the present study, we assessed the level of genetic diversity of nine catfish species using sequences of the large subunit of the mitochondrial DNA (16S rRNA). Approximately 570 base pairs (bp) were sequenced from 672 individuals of nine species. In all species studied, haplotype diversity and nucleotide diversity ranged from 0.118 ± 0.101 to 0.667 ± 0.141, and from 0.0002 ± 0.0003 to 0.0016 ± 0.0013, respectively. Four haplotypes were detected amongst 16 samples from natural populations of the critically endangered Mekong giant catfish. The results, in spite of the limited sample size for some species investigated, indicated that the level of genetic variation observed in the wild populations of the Mekong giant catfish (haplotypes diversity = 0.350 ± 0.148, nucleotide diversity = 0.0009 ± 0.0008) is commensurate to that of some other related species. This finding indicates either (a) the wild population of the Mekong giant catfish might be more robust than currently thought, or (b) present wild populations of this species is carrying a genetic signature of the historically larger population(s). Findings from this study also have important implications for conservation of the Mekong giant catfish, especially in designing and implementing artificial breeding programs for restocking purposes.

Email thuy.nguyen@enaca.org for full content of the paper.

IMNV found in Asia-Pacific

Infectious myonecrosis (IMN) is a new viral disease affecting shrimp that until recently had only been identified in northeast Brazil in cultured *Litopenaeus vannamei* (white shrimp) and had been considered exotic to the Asia-Pacific region. Considering the large scale trans-boundary movement and culture of *L. vannamei* in the Asia-Pacific, the virus is considered important for the region and has been included in the NACA/FAO/OIE Quarterly Aquatic Animal Disease Report list for the purpose of surveillance and reporting since January 2006 as IMNV is not listed by the World Animal Health Organization (OIE). IMNV has been confirmed in Indonesia by the National Coordinator. Details are as follows:

1. Suspected IMNV was detected in Situbondo district, East Java Province in May 2006. Mortality rate: 7 – 15 shrimp per day.

2. Species: *L. vannamei*, 60 – 80 days old (sub adult).

3. Clinical signs: Red colour in the abdominal segment, myonecrosis with white discoloration of the affected muscle.

4. Diagnosis: conducted by Aquaculture Pathology Lab (Dr. Lightner, USA) - shrimp sample confirmed to be positively infected by IMNV.

5. Presently the Government of Indonesia is conducting surveillance for IMNV, in some areas of the East Java Province, Bali and West Nusa Tenggara.

In view of these recent findings and large scale unregulated movement and local propagation of *L. vannamei*, National Coordinators have been requested to take actions to increase surveillance and collect information on any possible occurrence of this disease in their countries.

Moving/importing live animals carries with it an inherent risk of introducing serious exotic diseases. We therefore recommend that members of the aquaculture industry try to source their broodstock and seed from local stocks wherever possible - Ed.

Thailand and US to jointly install tsunami wave sensors

Thailand and the United States will jointly install two ocean buoys fitted with tsunami wave sensors in the Indian Ocean and the Andaman Sea late this year and early next year.

A government spokesman said that the National Disaster Warning Centre is preparing an agreement on the installation between the Thai and US governments. The US government will invest nearly 400 million baht for the installation of the two buoys which will be replaced every two years.

The Thai government, meanwhile, will pay 70 million baht on maintenance of the buoys for two years.

Co-management in aquaculture explored at APFIC Forum

Co-management in fisheries was one of the issues of regional importance discussed at the APFIC (Asia-Pacific Fisheries Commission) First Regional Consultative Forum held in Kuala Lumpur on 16-19 August 2006. Two presentations on the theme by Robert Pomeroy of University of Connecticut and World Fish Centre and Pedro Bueno of NACA, and specific cases reported by the representatives of 13 APFIC member countries provided further support to the contention that (i) resource conflicts can be diminished and management improved if resource users were more involved in the management of the resources and access rights are distributed more efficiently and equitably, (ii) the decentralization of fisheries management and the allocation of decisions to the community level may be more effective than the management efforts which distant, under-staffed and under-funded government fisheries agencies can provide. The specific cases in fisheries and aquaculture indicate a growing awareness of the need for increased resource user participation in management and greater community control over access in Asia. (See www.apfic.org for the papers and report of the consultation and that of the 29th APFIC Session which was held immediately after the consultative forum).

Robert Pomeroy, co-author of "Fishery Co-management: A Practical Handbook" (published by IDRC in association with CABI, cabi@cabi.org), gave a comprehensive review of the concepts, practices and issues in fisheries co-management in Asia. He defined it as a partnership arrangement in which the community of local resource users (fishers), government, other stakeholders (boat owners, fish traders, boat builders, business people, etc.) and external agents (non government organizations, academic and research institutions) share the responsibility and authority for the management of the fishery. Through consultations and negotiations, the partners develop a formal agreement on their respective roles, responsibilities and rights in management. Determining what kind and how much responsibility or authority to allocate to the community level is ultimately a political decision. The government will always hold the balance of power in co-management. He qualified that there is no blueprint or model for co-management but there is a variety of arrangements to suit a specific context. Therefore co-management should be viewed not as a single strategy to solve all problems of fisheries management, but as a process of resource management, maturing, adjusting and adapting to changing conditions over time.

Pomeroy listed several motivating factors for co-management, as follows: Dependence on the resource and the level of threat to livelihoods as a result of resource decline, desire to improve quality of life and standard of living and address poverty, need to reduce conflict, desire of people to be more involved in making management decisions, government policy, and donor initiative. The two reasons to "mainstream" co-management in fisheries include the fact that governments with their finite resources cannot solve all fishery problems, and the need for local communities to take more responsibility for solving local problems. He said that communities must be empowered and resources provided to take action that assistance of government continues to be required.

He stressed the need for adequate financial resources and the need for timely and sustained funding. In this connection, he noted that there has been heavy reliance on external funding of most co-management projects and therefore urged more investment by the community of their own resources.

Is co-management a viable fisheries management strategy for Asia? Pomeroy says it is, explaining that experiences have shown that under certain conditions fisheries co-management can be an equitable, efficient and sustainable resource management strategy. He cautioned however that other experiences likewise show that it will not work in every situation and implementation could be costly, complex and time consuming.

For aquaculture, Bueno described some experiences in Asia that show voluntary adoption of BMPs by organized farmers leads to more environmentally responsible and economically efficient farming, as well as better quality and safer product. He reviewed the work in shrimp and the action research projects in culture-based fishery to make a case for co-management in aquaculture. He noted however that co-management, which has been developed and applied for natural resources, does not strictly apply to aquaculture, although there are a number of elements of self-regulation and voluntary management from the examples. Among other reasons, voluntary regulation or co-management would reduce the cost of enforcement of rules and regulations and probably reduce the adverse impacts of regulations being enforced half-heartedly or excessively. In this regard, it was noted that the right balance and good integration of command and control, market incentives and self-regulatory instruments would contribute to a well-managed aquaculture sector.

Virus may control Australia's feral carp problem

CSIRO scientists are investigating a potential new biological control agent that could hold the key to eradicating one of Australia's most invasive aquatic pests - the common carp.

Researchers at CSIRO Livestock Industries Australian Animal Health Laboratory (AAHL) in Geelong - with the Department of Primary Industries Victoria - are investigating Koi herpesvirus as a means of controlling the introduced fish.

Project leader Dr Mark Crane says the virus, which first emerged in Israel in 1998, caused mass mortalities in carp in the US, the UK, Israel, the Netherlands, Japan and Indonesia. So far the virus does not appear to have reached Australia.

Supported with $355,000 from the newly formed Invasive Animals Cooperative Research Centre and the Murray-Darling Basin Commission, the two-year project will investigate the effectiveness of Koi herpesvirus in controlling strains of carp present in Australia and will examine whether the virus will have any impact on certain native fauna.

"All testing will be done within the secure biocontainment facilities at CSIRO AAHL," Dr Crane says.

Dr Crane says while carp are a valuable resource in Asian countries, in Australia the fish is generally viewed as a major pest.

"Given their reproductive capacity and their hardiness, carp have been termed the 'rabbit of the river'."

Carp were introduced into Australia in the early 1900s as a food and sporting fish. During extensive flooding in the 1970s the fish escaped from farm dams and took over the waterways. They can tolerate a wide range of water temperatures, salinity and pH levels. Carp can also survive and breed in polluted, poorly oxygenated water.

"The fish grow to up to 20 kilograms or more in weight and each female can lay up to three million eggs in a single season," Dr Crane says. "In some areas of south-eastern Australia carp make up more than 85 per cent of the fish in the rivers and creeks.

"The virus works by attacking the carp's gills as well as other vital organs and eventually killing its host. Koi herpesvirus is attractive as a biological control agent as overseas studies suggest that it has a very limited host range, infecting only carp.

"If the laboratory studies show promise, the next step will be extensive government, public and industry consultation to determine the best course of action to control carp, while protecting and restoring Australia's valuable waterways," Dr Crane says.

The project is part of a larger pest fish control program under the Invasive Animals CRC and 50-year Native Fish Strategy at the Murray-Darling Basin Commission. Other technologies being developed in the pest fish program include 'daughterless' technology, carp-specific biocides, pheromone and sensory attractants.

"It is anticipated that if these technologies are proven to be effective and safe, they will be applied on-ground in an integrated pest fish control program for the Murray-Darling Basin," Dr Crane says.

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A milestone in India's sustainable shrimp farming efforts

An Indian national news paper "The Hindu" reports an important milestone in the continuous efforts towards sustainable shrimp farming in India. The new institution called the National Centre for Sustainable Aquaculture (NaCSA) is to be established in Kakinada, Andhra Pradesh, with branches in other states of India.

NaCSA owes its origin to the village demonstration program conducted by Marine Products Export Development Authority (MPEDA) in association with NACA. The MPEDA/NACA program has supported a formation of self-help farmer groups to adapt Better Management Practices (BMPs) for more profitable and sustainable shrimp farming.

The program started in 2002 with just 5 farmers, and has now expanded to 690 farmers in a total of 29 villages in five Indian states (Andhra Pradesh, Tamilnadu, Orissa, Gujarat, and Karnataka).

The program covers 1313 ponds in 708 hectares, and over 500 metric tones of BMP shrimp were produced in the first half of 2006. NaCSA is lead by its Chief Executive Officer, Mr Anis, who convened the first governing council meeting on 19 October 2006 to formalise plans to further support sustainable shrimp farming in the country. For more information about BMPs, visit:

http://www.enaca.org/modules/tinyd2/index.php?id=14.

Fish introduction in India: Status, challenges and potentials

The two-day national workshop on "Fish introduction in India: Status, challenges and potentials" was held on 16-17 September at the National Bureau of Fish Genetic Resources (NBFGR), India.

This is an important step towards the documentation of the spread of exotic species in India and assess the emerging requirement in relation to the need for diversification of aquaculture, threat to the aquatic biodiversity and to develop suitable strategies to mitigate the negative impact of imported aquatic germplasm.

About 60 delegates from different State Fisheries Department, Ministry of Agriculture, universities, central fisheries organisations and private aquaculture industries expressed their views regarding the status of exotic fish culture and adverse effects on native fish species and aquatic ecosystems. Dr. WS Lakra, director, NBFGR, expressed the hope that formulation of suitable strategies and their implementation and public-private participation can help tackle the problem of fish introduction in the country.

8th Asian Fisheries Forum

Fisheries and aquaculture in the Asian region have been drawing increased attention as an avenue for food and nutritional security, livelihood, employment, investment and trade. Asia's contribution to the world fisheries and aquaculture is significant and growing, emerging as a major player in fish production, diversification, value addition and trade.

World capture fisheries production has been passing through a difficult period due to stagnation in yield, increased operational costs, reduced profitability, emerging concerns of sustainability, globalization, biodiversity loss, pollution, environmental degradation, and many other factors. Developing countries of the Asian region are at higher risk as millions depend on fisheries for their livelihoods. It is time that the fisheries scientists take upon themselves the challenge of addressing these issues through strategic and anticipatory research leading to interventions which will ensure not only long-term sustainability but also make fisheries and aquaculture a rewarding, environment friendly, socially acceptable and economically profitable activity. It is with this focus that the 8th Asian Fisheries Forum has chosen the theme "Fisheries and Aquaculture: Strategic Outlook for Asia".

The Conference will be held from 20-23 November, 2007. There will be several simultaneous technical sessions, a poster session, two symposia, a trade exhibition and post-forum tours. Kochi, the Queen of the Arabian Sea has been selected by the AFS as the venue of 8th Asian Fisheries Forum, 2007. There are many fisheries organizations, fishery related activities such as fishing, aquaculture farms, processing plants, exporting firms, quality control labs, fish feed factories, fish farms, fish traders, fishery equipment suppliers, exporters and research institutes located in and around Kochi. In addition to this, Kochi is situated in Kerala, one of the top notch tourism destinations in the world. The port city is well connected by over 170 domestic and over 150 international flights per week as well as by rail and road.

The Forum will be held at Le Meridien Resort & International Convention Centre, Kochi which is situated in the outskirts of the city of the Kochi. The forum will be an opportunity for scientists from various countries to present their research outputs and interact to develop collaborative research and development agenda for future.

Technical sessions

1. Living Aquatic Resources, Capture Fisheries and Management.
2. Aquaculture: Production System & Management, Productivity Enhancement.
3. Biodiversity & Conservation.
4. Environment, Pollution, Impacts.
5. Biotechnology.
6. Fish Health.
7. Harvest and Post-harvest Technology, Value Addition.
8. Fisheries and Society.
9. Human Resource, Policy and Governance.
10. Economics, Marketing, Exports, Trade, Globalization.

There will be two special symposia during the forum: 1. The second global symposium on Gender and Fisheries: Solutions through Gender Research and 2. Shrimp Aquaculture in Asia: Current Status and Future Prospects.

Enquiries

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STREAM Update

Four One-stop Aqua Shops (OAS) launched in Quang Ninh province, Vietnam

Four One-stop Aqua Shops have been established in Thanh Hai, Hai Thai, Doi May and Trang Tien villages, Tien Yen District, Quang Ninh province, Vietnam aiming to provide single local locations for fish farmers and aquatic resources stakeholders to share knowledge, find information, training, sources of inputs such as fingerlings, micro-credit, loans, market information and government, inter-governmental and NGO support, and rural banking services. The OAS are supported by the SUMA (Support to Brackish and Marine Water Aquaculture) component of the DANIDA FSPS (Fisheries Sector Program Support). They follow discussions between NACA and the SUMA project and provide input services and information for farmer groups so far these comprize 40, 50, 60 and 100 households respectively.

OAS were originally developed through partnerships in association with the DFID-NRSP project R8334 'Promoting the Pro-Poor Policy Lessons of R8100 with Key Policy Actors in India,' and are already established in locations in Jharkhand, Orissa and West Bengal states in Eastern India and in Gujranwala, Pakistan.

Update on West Bengal One-Stop Aqua Shops

There are currently six One-Stop Aqua Shops (OAS) in Western Orissa, situated in Bolangir, Saintala, Patnagarh, Kharihar, Bilenjore and Nuapara respectively.

- Bolangir OAS has recently arranged a one-day exposure visit for a 22 member team from Bolangir to Mr. Patra's farm, who is a successful fish farmer, in the month of August 2006. Bolangir OAS has also facilitated the supply of fish seed to four Self Help Groups (SHG) from the Western Orissa Development Corporation. This Corporation is helping the farmers who have lost their stock due to flooding.
- The OAS Saintala has established a nursery network with 20 SHGs for managing and marketing the carp seed produced from the nearby hatchery. In Western Orissa income generating opportunities are relatively limited. Nursing fish provides a livelihood option for small-scale farmers with tiny farm ponds and contributes fry and fingerlings to an area deficient in carp seed for on-growing.
- The OAS Patnagarh has arranged one day training on Fish Culture in August 2006. The OAS Kharihar has attracted 35 members who wish to receive training on Fish Culture.
- This year also OAS Bilenjore has successfully performed hatchery operations and produced 7,550,000 spawn.
- An awareness camp was recently held at the OAS Nuapara on pre-stocking management.
- OAS Kaipara, after receiving training on hapa breeding from ICAR institute at Kalyani, West Bengal, organized by NACA, has developed a net-based hatchery which has produced 300,000 spawn in this season. This OAS has just completed the construction of one carp hatchery. They have built this hatchery with the purpose to generate more income and also to fulfill the demand of quality fish seeds in their area.

One-stop Aqua Shop Promotional Campaign, Ranchi, India

NACA recently embarked upon a two month experimental promotional campaign for the One-stop Aqua Shop (OAS) based at the Fish Farmers Development Agency (FFDA), Ranchi, Jharkhand, India. The poster-based campaign aimed to generate greater awareness of the services, materials and government schemes made available at the OAS. In total over 500 posters were produced and displayed in villages throughout the OAS's catchment area. In response the OAS manager has already reported an increase in OAS visitor activity; following this further campaigns are planned featuring posters outlining aquaculture techniques.

Publications

STREAM Journal Volume 5 Number 3

This special number of the STREAM Journal features stories from or about Cambodia, India, Nepal, Pakistan, the Philippines and Vietnam. The changes highlighted in the stories concern:

- Differences in livelihood experiences and potentials as a result of legal reform in Cambodia.
- A fish farmer's venture into nursery rearing and networking in India.
- A man and a woman whose lives are transformed by starting small with pond fish farming in Nepal.
- Perceptions of senior government colleagues that change as a result of engaging in participatory consultative processes with communities in Pakistan; and
- A different way of writing and reporting about a government agency's activities after some positive learning experiences in the Philippines.

To view the STREAM Journal and previous editions please visit the Virtual Library at:

http://www.streaminitiative.org/Library/stream-journal/streamjournal.html.

New Policy Brief, "Aquaculture in Watershed Development"

As part of NACA's on-going work with the Western Orissa Rural Livelihoods Project, a new Policy Brief has been produced entitled "Aquaculture in Watershed Development." The brief is about the relevance of including

aquaculture in watershed development for food security as well as social and economic opportunity, and is recommended for those who want to understand more about the opportunities aquaculture offers to poor people in watersheds development. To view the brief please visit the Policy Brief page of the Virtual Library at:

http://www.streaminitiative.org/Library/PolicyBrief/index.html

International Seafood Trade: supporting sustainable livelihoods chapter published

The outcome of the recent European Community's Poverty Reduction Effectiveness Programme (EC-PREP) project, which investigated the shrimp and marine ornamentals trade with Europe and the possible role/benefit for poor people, is to be published by Ashgate as a chapter of a new book entitled "EU Development Policy and Poverty Reduction: Enhancing Effectiveness". Within the project, environmental, trade and livelihoods issues were supported by NACA, European trade links with Asia were supported by Poseidon and a useful collective understanding built out of the collaborative effort which has been selected for sharing in this publication with a wider audience. A preview of the chapter is in the Regional of the Virtual Library, at:

http://www.streaminitiative.org/Library/Regional/regional.html#ec_chapter.

Pakistan Policy Workshop

The Final National Workshop of the FAO Technical Cooperation Project was held from 30-31 October 2006 at the Margala Hotel in Islamabad, Pakistan, with the objectives to:

- Review the final outcomes of the TCP.
- Review the proposed institutional arrangements for overseeing and implementing the policy and strategy.
- Discuss and incorporate inputs to the draft proposal for government funding called a PC1.
- Identify further action to implement the policy and strategy.

The workshop report is available to view in the Pakistan page of the Virtual Library at:

http://www.streaminitiative.org/Library/pakistan/index.html.

Communications Hub Manager, Muhammad Junaid Wattoo attended a conference on "Solving Problems of Freshwater Fish Farming in Pakistan", organized by University of Veterinary & Animal Sciences, Lahore, 27-28 November 2006. The conference was aimed to highlight the problems being faced by fish farmers and to propose their solutions. A wide range of stakeholders in the aquaculture sector attended the conference including Academics, Researchers, Development Workers, NGOs, Fish Farmers and Traders. Mr. Junaid Wattoo presented "The development of the new National Fisheries and Aquaculture Policy in Pakistan" for which NACA STREAM Initiative was involved since 2005. Further, the One-stop Aqua Shops established with the help of the NACA STREAM Initiative in Pakistan and in the region were also introduced during the workshop to help to solve problems of Fish Farmers.

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NACA is a network composed of 17 member governments in the Asia-Pacific Region.

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

Website management training to support Thai Post-tsunami Rehabilitation website

The 3rd NACA Training Course on Website Design and Administration was conducted at NACA HQ in Bangkok in July.

The one-week training was conducted for five staff from the Thai Department of Fisheries, who will be responsible for managing the new Andaman Forum website. The aim of the Andaman Forum website is to promote sharing of information on post-tsunami rehabilitation activities in Thailand. The website serves as a clearinghouse, enabling donors, NGOs and government agencies to easily obtain information on rehabilitation activities in their area, and to make contact with the organizations that are undertaking them. The end goal of the Andaman Forum is to facilitate the establishment of partnerships and collaboration between concerned agencies, so as to avoid duplication of effort. The website is available at: http://www.andamanforum.org.