



Governing Council 13 / AFBiS Seminar

The Governing Council meeting was hosted by the Government of Malaysia on Langkawi Island, 15-18 January in conjunction with the Regional AquaBusiness Seminar and exhibition 2002 (AFBiS).

This was the first time that the Governing Council has been co-hosted with a commercial event. The main reason for doing so was to give Governing Council members and business people a chance to interact in a special joint session.

The theme of the seminar was "New Opportunities For Sustainable Aquaculture Development". Approximately 200 people attended the Aquabusiness Semi-

nar & Exhibit held in conjunction with the Governing Council meeting. 42 technical presentations were given as part of five thematic sessions with the topics varying from new opportunities in coastal aquaculture, the latest farm management techniques, innovative products to increase production and healthy stock, new culture systems, breakthrough in breeding and development of new species, new services, and market status and trade prospects for seafood.

During the discussions, AFBiS participants formulated a 14-point list of conclusions and recommendations to promote the sustainable development of the aquaculture industry.



The Hon. Dato Haji Abu Bakar (left), Dato Hashim Ahmad (center) and the outgoing NACA Chair, Mr Glenn Hurry (right).

(Continued on page 2)

US Consultation sets work agenda for the WB-NACA-WWF-FAO Consortium on Shrimp Farming and the Environment



Dr Kristalina Georgieva, Director of the World Bank's Environment Department, and Dr Ron Zweig, the bank's Senior Aquaculturist, with Mr Pedro Bueno of NACA, in her keynote speech to the consultation. She said the Bank welcomes and strongly supports a mode of cooperation as exemplified by the Consortium program. The WB environment strategy emphasizes three

objectives: Improving the quality of life; Improving the quality of growth by supporting policy, regulatory and institutional frameworks for sustainable environmental management and by promoting sustainable private development; and Protecting the quality of the regional and global commons such as climate change, forests, water resources and biodiversity.

A stakeholders consultation was held at the World Bank headquarters in Washington DC on 27-28 March 2002. The meeting has recommended a programme of work – essentially a plan to assist governments and farmers implement the lessons, findings and recommendations from the Consortium Program to analyze and share experiences on better management of shrimp aquaculture in coastal areas. Their immediate work agenda includes improving, finalizing and developing ways to implement the findings of the study on shrimp farming and the environment.

The Program conducted a study that comprised 35 complementary case studies on different aspects of shrimp aquaculture.

Dr Georgieva: "One of the key lessons...is that we have to consider environment as a part of development rather than a self-standing agenda"

The study, which includes case studies and thematic reviews on better management practices in shrimp aquaculture, was conducted between 1999-2001 in three continents (Asia-Pacific, Latin America and Australia). (Page 3)



Mr Junaidi Che Ayub, Deputy Director-General of the Malaysian Department of Fisheries (front row, center) was unanimously elected as the GC Chair for 2002. U Khin Ko Lay, Deputy Director of the Myanmar Department of Fisheries (front row, 4th from left) was elected Vice-Chair.

One of the key issues discussed was the costs and benefits of developing a Regional Federation of Aquaculture Producers, to represent the interests of the industry on a broader regional level.

This was discussed in light of the keynote presentation by Mr Courtney Hough, the current Secretary General of the Federation of European Aquaculture Producers. Mr Hough outlined the experiences and lessons learned in establishing, running and maintaining the organization. His full paper is reprinted in the current issue of Aquaculture Asia.

The 14-point draft conclusions and recommendations formulated by the AFBiS delegates was the main basis of the discussions at the special joint session with the Governing Council. Following the discussion, a broad agreement was reached on the importance of a regional aquaculture producer's organization in Asia-Pacific, and the meeting invited NACA to help facilitate the establishment of the organization.

The discussion covered a wide range of issues including the feasibility of organizing a regional farmers organization, its name and nature, the alternatives to a regional farmers organization, ability of such to adequately represent the interests of the small-scale and poor aquaculture farmers, the timing and pace of its development, and resources needed to organize one.

Comments from AFBiS participants indicated that they appreciated the opportunity

to highlight aquaculture development priorities to the Governing Council from an industry perspective. Given the fruitfulness of the discussions, joint sessions are likely to become a regular feature of future Governing Council meetings.

A two-day AFBiS study tour to aquaculture projects and farms in Southern Thailand supplemented a day's study tour in Langkawi.

NACA 2001 Highlights

- The Support to Regional Aquatic Resources Management program (STREAM) has been launched and funding secured;
- The regional Technical Cooperation Program on health management was successfully completed, achieving all its objectives and delivering more than expected outputs and getting continued support and cooperation for implementation from various agencies;
- The multi-regional study on Shrimp Farming and the Environment is finalizing its case studies and synthesis report, expected to be ready by the FAO "Committee on Fisheries" Aquaculture Sub-Committee meeting in April 2002;
- 14 regional training courses and technical study tours organized in 2001, with 93 people trained in five courses and 46 in nine study tour programmes;
- A work plan for the Consortium on Aquaculture Education has been formulated;

- The blueprint for the Trans-Himalayan Network on Coldwater Fish and Fishery Resources has been drafted;
- eNACA is operational with an improved website and program of continuous improvement in place;
- The Marine Finfish R&D Network is expanding with more components and participants;
- Landmark publications were released including the Technical Proceedings of the Conference on Aquaculture in the Third Millennium, the Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing Consensus and Implementing Strategy, the Manual of Procedures for Implementation of the Technical Guidelines and the Asia Diagnostic Guide to Aquatic Animal Diseases;
- An initiative to develop partnership strategies with Governments has been launched;
- Cooperative agreements have been formally made and operated with ASEAN and Mekong River Commission; and
- Plans for the assistance to organize the Regional Aquafarmers Network.

Snapshot of GC 13

- The 2002 workplan, formulated by TAC 6, was endorsed;
- The NACA Agreement is to be amended to permit Associate Membership by any group of states, regional or international donor agency, inter-governmental organization, regional economic organization, including a regional integration organization, which may contribute to the achievement of the objectives of NACA (upon agreement of a two-thirds majority of members).
- The eNACA / regional information program is to be strengthened and a new initiative launched to provide advice to governments on Information Technology development and training, to assist member governments to strengthen national and regional electronic information systems;
- The Grouper Network has been adopted as a core (ongoing) activity of NACA and its scope has been expanded to include other finfish species. The network

- has been renamed the 'Marine Finfish Network' to reflect this broader focus;
- A project to prepare and maintain aquaculture development 'country profiles' on the website will be piloted with an initial profile of Australia;
 - An electronic library to be established on the NACA website, with the objective of making network publications, in particular 'grey literature', more accessible and to create a forum for sharing information;
 - Indonesia and Iran are finalizing their preparations to join NACA;
 - NACA member governments have drafted a statement to be submitted to the inaugural meeting of the FAO Committee on Fisheries Subcommittee on aquaculture, scheduled to be held in April 2002 in Beijing;
 - Myanmar has offered to host the 2003 Governing Council meeting and Pakistan has offered to host the 2003 Technical Advisory Committee meeting.

Conclusions and Recommendations of the Joint meeting of AFBiS 2002 and the 13th NACA Governing Council

Discussion by the participants on the final day of AFBiS focused on potential actions by Government, International Organizations and Producers to facilitate the sustainable development of aquaculture. Participants formulated the following conclusions and recommendations:

1. The aquaculture production sector is diverse in nature and structure both in Nations and throughout the Region. This diversity means that both the conditions and the needs of the sector are highly variable.
2. The production sector is perceived as urgently requiring:
 - Educational and training facilities;
 - Access to a reliable information supply;
 - Basic and detailed information that assists production and sales; and
3. Common standards are needed for:
 - Use of chemicals and drugs;
 - Overall approach to production standards; and
 - Best Operating Practices.
4. Furthermore, there is the scope for identifying additional common interests that will help sectoral development
5. The state of Producer Associations is highly inconsistent, again reflecting the diversity of needs within different Nations, and where strengthening is seen as necessary at both the local and national levels.
6. Actions required of such Associations should include:
 - Providing a forum for producers;
 - Providing the opportunity to access information and technology;
 - Improving the communication flow to the 'grass roots'; and
 - Demonstration of the benefits of being in Association.
7. Producers must play a strong participative role in sectoral development but the conditions for an effective stakeholder position have yet to be fulfilled.
8. The establishment of Regional aquaculture producer representation is seen as the right move, while recognizing that this may take time to develop. The benefits are recognized and these could be achieved through the formalization and function of an appropriate representative body.
9. It is recommended that NACA be used as a catalyst for such development, facilitating the possibility for a Regional Aquaculture Producers Organization.
10. For this to be achieved, better knowledge of the activities and importance of existing Associations is needed, particularly where there is interplay with other Community organizations and Councils.
11. Action needs to be taken both at strengthening the local and National Associations, while developing such a Regional Organization, noting that the identification of clear goals and common actions is needed.
12. It is felt that developing an autonomous Regional Aquaculture Producer Organization would take time and that NACA could provide a degree of support (preliminary infrastructural services) that should be limited in the time and scope.

13. Integral to this effort would be the definition of the exact structure, stationary constitution, membership conditions and responsibility of a Regional Producer Organization, established in consultation with National and Regional stakeholders.
14. Assistance was also requested for the establishment of an aquafeed network.

Shrimp Farming and the Environment Consultation

(From page 1) Over one hundred researchers and development workers participated from government agencies, NGOs, academic institutions, corporate managers, and individual farmers.

The consultation in Washington identified follow-up actions and outlined collaborative arrangements to assist farmers and governments implement BMPs ("better management practices").

It was attended by more than 30 representatives coming from the private sector in Asia and Latin America, governments in Asia and Latin America, donor organizations including US AID, Foundations, civil society, and from NACA, WB, WWF, FAO, IFC and IUCN. The meeting reached an important agreement between industry and other participants to move forward with consultations aimed at consolidating the findings from the consortium program into an internationally agreeable set of core BMP principles.

The cases and reviews, and the draft synthesis report of the Programme, together with further news on the outcome of the stakeholder consultation and progress of the consortium program in general, are available at NACA's website: www.enaca.org/shrimp. Contact Dr. Michael J. Phillips, shrimp@enaca.org for more information.

FAO/NACA Expert Consultation Focusing on Aquaculture and Small-scale Aquatic Resource Management for Poverty Alleviation

The Expert Consultation was organised in order to provide field-level professionals in Asia with a unique opportunity to come together to share experience on working in the field of poverty alleviation and aquaculture, and to prepare a platform for future networking. The 22 participants in the consultation came from a range of field backgrounds in eight regional countries and are currently working with NGOs, donors, government departments and regional organizations (MRC, NACA) and regional offices of international organizations (FAO, IUCN, ICLARM). The expert consultation was supported by FAO in Bangkok, 12-14 February, as a contribution to the regional communications role of the FAO/NACA/DFID/VSO initiative "Support to Regional Aquatic Resource Management" (STREAM).

The themes of the workshop were:

- i. Understandings of poverty and poor people's livelihoods, and models for poverty alleviation;
- ii. How to effectively target poor people, and contribute to sustainable livelihoods;
- iii. How to identify and overcome the constraints to poor people's entry into aquaculture; and
- iv. From theory to action – recommendations and guidelines for implementation.

The consultation reached the following conclusions, targeted at field managers involved in poverty alleviation and aquatic resources management, policy-makers, and donors:

- Living aquatic resources play a fundamental role in sustaining the livelihoods of many of the rural poor in Asia; providing crucial buffers to shock, food security and opportunities for diverse and flexible forms of income generation;
- In many cases, the poorer people are, the more dependent they are on aquatic resources, particularly low value fish and non-fish aquatic resources;
- Women often play important roles in aquatic resource use and management, and aquaculture interventions may have particular benefits for women;
- Small-scale aquaculture and aquatic resource management hold considerable potential to contribute to poverty alleviation. In order to realise this potential, poverty alleviation should be taken as the strategic starting point for aquaculture interventions. This has significant implications for how interventions are conceptualised, planned and executed, and the institutional arrangements;
- Distinctions between aquaculture and the management of living aquatic resources are often artificial and devalue the flexible and often complex rela-

tionships between aquatic resources the livelihoods of the rural poor;

- As with any production-based intervention, the poorest groups face significant constraints to entry into aquaculture. Opportunities do exist to overcome these constraints, and aquaculture offers many opportunities for livelihood benefits that other sectors do not offer;
- Aquaculture technologies appropriate for poor people are now largely in place. The greater emphasis is on more effective extension of low-cost technologies, appropriate management practices to poor people and securing rights of access and control, rather than technical research;
- Understanding the context of poor people's livelihoods is essential. Effective poverty alleviation requires assessment of poor people's needs and identification of opportunities that allow for entry by poor people into aquaculture production and related activities. This in turn requires more sophisticated yet workable understandings of poor people's livelihoods, the causes and characteristics of poverty, and the socio-economic worlds in which poor people operate. A prerequisite for this approach is greater participation by poor people;
- Poor people's livelihoods often depend on a range of resources and livelihood activities, of which aquaculture may be an important component. In these cases, aquaculture needs to fit with and complement other activities, rather than attempt to replace such activities;
- Effective management of small-scale fisheries (including rice-fields, back-water swamps, and irrigation canals) by local resource users holds considerable potential for poor people. Small-scale aquaculture is often an important component of management of wild fisheries;
- Placing poverty alleviation first requires innovative institutional arrangements and partnerships between governments, NGOs, civil society groups, poor people and donors; and

Below: Participants in the expert consultation



- Fisheries institutions are traditionally oriented to technical issues, and face serious budget and personnel constraints. They often have limited experience in training and extension methods appropriate for poor people. It is important to create new learning opportunities for these institutions so that they are able to provide more appropriate services to poor people. It is also important that the skills required to do so are valued and respected within the institutions.

The consultation report and full papers will be published serially in the NACA magazine "Aquaculture Asia", and made available via the NACA/STREAM Website.

For more information contact: *FAO Regional office Asia Pacific: www.fao.or.th, or visit the STREAM website: www.enaca.org/stream/.*

Myanmar Fishery and Livestock Fair 2002 a huge success

An agricultural trade show was held in Yangon from 16-22 February, jointly sponsored by the Ministry of Commerce and the Ministry of Livestock and Fisheries. A total of 135 companies participated in the event. The three-level Yangon Trade Centre was crowded for the entire week.

The fair had a heavy emphasis on fisheries including feeds, processing and cold storage with exhibits from many companies exporting high-quality seafood and value-added products – notably large premium quality shrimp and live reef fish. The aquaculture sector was also well represented notably by Myanmar's emerging shrimp farming industry and related feed and service industries, and by suppliers of many freshwater species including giant river prawn and Indian major carps.

International participation included companies from Australia, the United States, England, Hong Kong and Japan and with a particularly strong presence from Thailand. Local producers won contracts with foreign companies totaling \$US 27.25 mil-

lion including contracts to supply 7,823 tons of fish and shrimp.

Due to its popularity plans are now being made to run the fair again, most likely on an annual basis.

Nepal develops national strategy on aquatic animal health management

A three day workshop (12-14 December) was held in Nepal to further develop Nepal's National Strategy on Aquatic Animal Health, as part of the implementation of the Asia Regional Technical Guidelines for the Responsible Movement of Live Aquatic Animals and the Beijing Consensus and Implementation Strategy. Participants included provincial fisheries representatives and extension officers, representatives from the agriculture department, Nepal Agriculture Research Council, universities and the Office of the Chief Veterinary Officer. The workshop was facilitated by NACA's health specialist, Dr Melba Reantaso.

The main objective of the workshop was to finalize a National Aquatic Animal Health Management Strategy document in consultation and for submission for approval by relevant authorities. Other objectives of the workshop were to share understanding on the current status of aquatic animal health issues in Nepal; to discuss issues surrounding quarantine and health certification, disease surveillance, reporting system, aquatic animal health information systems contingency planning, zoning and import risk analysis (IRA); to identify institutional arrangements, training needs, other requirements and potential areas for cooperation among the different agencies/institutes at national level for the implementation of the National Strategy.

The development of the national strategy is a keystone initiative that will support the further implementation in Nepal of the "Asia Regional Technical Guidelines for the Responsible Movement of Live Aquatic Animals and the Beijing Consensus and Implementation Strategy", and the Asia-Pacific Quarterly Aquatic Animal Disease Reporting System. For further information contact melba.reantaso@enaca.org or NACA's focal point for the health program in Nepal, Mr Shankar Prasad Dahal, dofd@mail.com.np.

and Implementation Strategy", and the Asia-Pacific Quarterly Aquatic Animal Disease Reporting System. For further information contact melba.reantaso@enaca.org or NACA's focal point for the health program in Nepal, Mr Shankar Prasad Dahal, dofd@mail.com.np.

Shrimp Farming & the Environment Case Studies now available on the web

A total of 35 case studies have been carried out under the Consortium. There are currently 10 case studies available on the NACA web site covering issues in Asia and Latin America as well as thematic cases on disease and code of practice.

The remaining cases will be published during the next few months and will be available for download on the Consortium website:

www.enaca.org/shrimp

The Consortium website also features links to other shrimp related sites and publications and reports.

NACA implements APEC project on Import Risk Analysis

NACA convened an APEC-sponsored training course and workshop on “Capacity and awareness building on Import Risk Analysis (IRA) for Aquatic Animals” hosted by Thailand at the Secretariat headquarters in Bangkok from 1-6 April.

Sixty-one participated in the workshop from all NACA member governments as well as from a number of other APEC economies including Canada, Japan, Mexico, Singapore, the United States, Spain and the Pacific. The objectives of the project are to:

- Bring together regulatory authorities responsible for trade in live aquatic animals and aquatic animal health specialists to share experience and raise awareness;
- Develop a manual on IRA for aquatic animals that will support economy IRAs and standardization and harmonization of procedures and processes including health certification requirements for trade;
- Establish a network of people involved in conducting IRAs for aquatic animals in APEC economies to facilitate exchange of information on epidemiological and surveillance data on aquatic animal diseases relevant to trade; and to
- Facilitate further exchanges of experience and expertise on IRAs for aquatic animals between countries with greater and lesser experience in conducting IRAs.

This was the first training course on import risk analysis for aquatic animals offered in the Asia-Pacific region and a similar workshop will also be convened by NACA in the Americas, hosted by Mexico. OIE, through its Asia-Pacific Office in Tokyo, supported the participation of a vet from Switzerland.

The training course covered the four major components of the IRA process, ie. hazard identification, risk assessment, risk management and risk communication with a focus on qualitative risk assessment methodology; understanding and familiarizing with international obligations and developing economy IRAs that can form the basis for meaningful negotiations on market access issues. It will also assist economies in making legislative and policy decisions on the import / export of aquatic animals and their products based on a science-based process and broad-ranging consultation with relevant stakeholders.

The project is one of the major recommendations of two recently concluded APEC Fisheries Working Group projects – namely the “Mexico Ad-Hoc Export Consultation on Transboundary Aquatic Animal Pathogen Transfer and the Development of Harmonized Standards on Aquaculture Health Management”, and “Development of a Regional Research Programme on Grouper Virus Transmission and Vaccine Development”. For further information contact melba.reantaso@enaca.org.

Participants in the Bangkok IRA workshop



MOU on project to prevent disease losses on prawn farms

NACA has signed an MOU to provide assistance to a project “Development and delivery of practical disease control programs for small scale shrimp farmers in Indonesia, Thailand and Australia”. The project is being led by NSW Fisheries and involving James Cook University and Queensland Department of Primary Industries. It is funded by the Australian Centre for International Agricultural Research.

The project builds on a recently completed and successful pilot study, also funded by ACIAR, which identified an important new disease, monodon neuropathy and retinopathy (MNR), on Australian farms. MNR is almost certainly part of the ill-defined ‘midcrop mortality syndrome’ and is associated with infection by the widely spread gill-associated virus. On the study’s Indonesian farm, science-based methods of controlling white spot disease were successfully applied; the farm harvested a good crop while surrounding farms lost heavily.

Under the new project, the research team will work closely with collaborating farms in eastern Australia. Researchers will focus on identifying the causes of important diseases on target farms and on developing practical and cost-effective control and prevention measures for them.

In Indonesia and Thailand, the project team will work with prawn health researchers, notably Dr Pornlerd Chanratchakool (Aquatic Animal Health Research Institute, Bangkok) and smallholder farmers to control diseases such as white spot and yellowhead. The aim is to apply already available, science-based methods to reduce risks and enable these farmers to produce profitable crops. Equally importantly, towards the end of the project, the team will ensure the information generated on disease control and prevention is made available to farmers in a user-friendly form, adaptable to individual farm situations. For more information please contact richard.callinan@agric.nsw.gov.au

Study tours and training

Andhra Pradesh Fisheries Minister studies Thai & Malaysian aquaculture systems

A senior fisheries delegation from Andhra Pradesh, India, visited Thailand and Malaysia from 25 December 2001 – 3 January 2002. Mr. N. Narasimha Rao, Minister for Fisheries, Andhra Pradesh, and Mr. D. S. Murty, IAS, Commissioner of Fisheries, Andhra Pradesh, participated in a study tour to Thailand and Malaysia to look at coastal aquaculture development and health management practices. NACA would like to thank the Royal Thai Department of Fisheries, the Department of Fisheries of Malaysia and the Fisheries Research Institute in Penang, Malaysia for their assistance in organizing the study tour. Following the visit, a team of six technical personnel from Andhra Pradesh involved in the shrimp farming and shrimp feed industry (Mr.



From right: Mr D.S. Murty; and Mr N. Narasimha Rao, Minister for Fisheries

R.P. Singh, Mr. A.C. Prabhakar, Mr. A.V. Sesadhari, Mr. L.V.S.L. Narasimhan, Mr. K. Nageswar Rao, and Mr. U.V.D. Prasad) visited shrimp farms and feed mills on the east coast of Gulf of Thailand.

Bangladesh Minister for Fisheries visits Thailand and Singapore

The NACA Secretariat arranged a study visit to Thailand and Singapore during 25 February – 3 March for a senior delegation from the Ministry of Fisheries and Livestock, Bangladesh. Under the Aquatic Resources Development, Management and Conservation Studies component of the Fourth Fisheries Project of Bangladesh, H.E. Mr. Md. Sadek Hossain Khoka, Minister for Fisheries, and Mr. Md. Rafiqul Islam, Forth Fisheries Project Co-ordination Director, visited various agencies and institutions of Thai Department of Fisheries and the Agri-foods and Veterinary Authority (AVA) of Singapore. The meeting with the Regional Office of IUCN in Bangkok explored the possibility to link up the IUCN country programme in



4th from right: H.E. Mr Md. Sadek Hossain Khoka, Bangladesh Minister for Fisheries

Bangladesh with the aquatic resource management and conservation component of the Fourth Fisheries Project.



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Vietnamese mission evaluates new high- value Chinese species

The Ministry of Fisheries of Vietnam fielded a six-member mission to Guangdong Province in southern China during 17-22 March to look at the high-value aquaculture species development and hatchery / culture technology.

Headed by Mr. Tran Van Quynh, Director of National Fisheries Extension Centre of Vietnam, the mission also included Dr. Le Thanh Luu, Acting Director of Research Institute for Aquaculture No. 1 and other three researchers from RIA-1 and a Senior Scientist from MOFI. The mission was particularly interested in the non-traditional species for aquaculture, such as Mandarin fish and sturgeons, which have been successfully established for large-scale commercial production in Guangdong Province.

The mission concluded with the suggestion for NACA to coordinate the transfer of technology from Guangdong to Vietnam by expert advisory services and staff training.

Right: Vietnamese mission to Guangdong Province. Mr. Tran Van Quynh (center) and Dr Luu, fourth from the right

CIFE students complete overseas attachment training

Under the NACA networking framework, three students from the Central Institute of Fisheries Education (CIFE), a component of the Indian Council of Agricultural Research, completed their three-week overseas attachment training with several institutes in Thailand, under TATA Foundation scholarships.

Mr. Baneshwar Singh, a graduate student from CIFE received his training on cloning and characterization of cDNA fragment encoding moult inhibiting hormone (MIH) of freshwater giant prawn (*Macrobrachium rosenbergii*), at the Central Biotechnology Laboratory, Kasetsart University, Kampensaen Campus, Thailand, during 19 February – 13 March.

Mr. S. John Josephraj, a Ph.D. student from CIFE, completed his placement on applica-

tion of GIS and remote sensing in fisheries management and planning 2-23 March, under the supervision of Dr. Phutchapol Suvanachai, a GIS expert of the Fisheries Resource Information Division of Department of Fisheries of Thailand. The student also attended a regional workshop on GIS application for Sustainable Development of Coastal Zone.

Miss Neelima Teresa Giles, another CIFE graduate student completed her attachment training in fisheries product quality assurance and HACCP application in seafood processing factories from 2-23 March, hosted by the Fish Inspection Centre in Songkhla, southern Thailand. She also received laboratory training in fisheries product development courtesy of the Faculty of Fisheries, Kasetsart University.



Above: Mandarin fish



Neelima Teresa Giles & S. John Josephraj

