



Call for applications (2nd round): FK Norway South-South Aquaculture Professional Exchange Programme

NACA is pleased to announce the initiation and implementation of an aquaculture professional exchange programme in partnership with the Independent Mission for Development and Education in Madagascar (MIDEM). The programme, entitled "Integrated farming of Nile tilapia and Asia-Africa network strengthening" aims to strengthen the technical competence of young professionals in aquaculture, particularly in tilapia farming, through professional exchange between Asian and African countries to share and gain experience. This will contribute to institutional capacity building, development and improvement of extension systems in aquaculture. It will also contribute to developing a new generation of dynamic young leaders and improve cultural understanding and cooperation between the two regions. This exchange programme is being carried out with generous financial support from Fredskorpset (FK) Norway. The programme will be implemented in three rounds over three years, starting from April 2013.

MIDEM is an open, non-profit NGO in Madagascar aiming to provide a sustainable solution to the needs of the Malagasy population stricken by extreme poverty and social injustice in suburban and rural areas in the Tamatave region, East coast of Madagascar. MIDEM's mission is to improve livelihoods by implementing projects on education, rural development including fish farming, entrepreneurship and social development.

Fredskorpset is the Norwegian branch of the international Peace Corps. It is an integrated part of Norwegian development cooperation and a Norwegian governmental body under the Ministry of Foreign Affairs. FK Norway promotes reciprocal exchanges between a diverse range of institutions and organisations

globally. This fosters mutual learning, development of capacity, change for the common good with the values of Challenge, Respectful, Passionate and Professional.

NACA and partners are now pleased to announce the second call for applications for young professionals in Asia to participate in the first round of this dynamic exchange programme.

The partner and host institution in Africa: MIDEM, Madagascar. The duration of the first round exchange is from August 2013 - April 2014.

Applications

If you are interested in participating in the programme please complete the application form linked below and return it before 14 June 2013. Please see the programme brochure for more information about arrangements.

Successful applicants will be required to:

- Sign agreements with NACA and MIDEM.
- Attend the participant preparatory course in Bangkok from 29 July to 9 August 2013.
- Go to Madagascar in late August 2013 for your exchange programme, which will last for eight months.

For application forms and further information about the programme, please visit the NACA website at:

http://www.enaca.org/modules/news/article.php?article_id=1977

AFSPAN field surveys underway!



Interview with a freshwater prawn farmer, Bangladesh.

Data collection for the AFSPAN Project has commenced, with field surveys underway in eleven countries spanning Asia, Africa and South America. The project will survey around 120 farms and 120 households in each country, working throughout Bangladesh, China, India, the Philippines, Viet Nam, Kenya, Uganda, Zambia, Brazil, Chile and Nicaragua.

The surveys are collecting data concerning farming practices and the importance of aquaculture to household employment and nutrition. The farm surveys are examining production issues including labour and time usage patterns, major costs and income generated on farms across a variety of scales. The surveys target several important species in each country to achieve a broad overall coverage that includes freshwater catfish, prawns, carp and tilapia, and marine shrimp, milkfish, salmon, shellfish and seaweeds. The household surveys are gathering data on household demographics, food consumption, employment and income from aquaculture and other jobs and expenditure patterns.

The data generated by these surveys will allow the project to develop a better understanding of the contribution of aquaculture to food security, nutrition, employment creation, income generation and women's empowerment. For more information, visit www.afspan.eu.

4th Global Symposium on Gender in Aquaculture and Fisheries

The 4th Global Symposium on Gender in Aquaculture and Fisheries will be held in conjunction with the 10th Asian Fisheries and Aquaculture Forum, which will be held from 30 April to 4 May in Yeosu, Republic of Korea. The symposium will be held over two to three days of the forum (dates to be advised). Papers for the symposium are being sought on the following themes:

- **Gendered change:** Capabilities and vulnerabilities with respect to changes (environmental, social, cultural, economic, livelihood). Gendered change (for women, men, girls, boys) is an important characteristic of the major changes occurring in aquaculture and fisheries. However, the gendered nature of change is little recognised, little studied and rarely measured. How can it be researched, measured and how should different agencies (e.g., fisheries departments, development agencies, NGOs) address it? Chair: Dr Hillary Egna, Co-Chair – to be advised. Lead speaker and contributed papers.
- **Gender assets, spaces and roles:** Qualifying and quantifying gender assets and roles, and the gendered use of space in aquaculture and fisheries (or) Unique spaces for women in aquaculture and fisheries. Co- Co-Chairs – to be advised. Lead speaker and contributed papers.
- **Meeting future needs:** Policy and advocacy related to gender in aquaculture and fisheries – research, development, decision making bodies (governments, public spaces), and the human capacity requirements. Chair, Co-Chair – to be advised. Lead speaker and contributed papers.

- **Status and contributions of women to aquaculture and fisheries:** A session in honor of Dr M.C. Nandeesh. This Session will contain tributes and papers in honour of the late Dr M.C. Nandeesh, the initiator of the AFS Gender in Aquaculture and Fisheries activities.

The symposium will also include several mini workshops and focus group discussions on the following themes:

- **NORAD-NACA workshop on mainstreaming gender in NACA:** How can the Network of Aquaculture Centres in Asia-Pacific (NACA) mainstream gender into its work program and what strategies can it develop to achieve this? As NACA approaches its 25th year and examines its future directions, this facilitated workshop will examine how this important regional inter-governmental body, comprised of the world's largest aquaculture producing countries, can address gender in its ongoing and planned programs and regional partnerships. Chair: Dr Meryl Williams. This workshop is being funded by the Norwegian Agency for Development Cooperation (NORAD).
- **ASEM Aquaculture Platform focus group discussion on future research needs:** What are the most important areas to cover in ASEM (Asian-Europe Meeting) future research (methodology, subjects of interest, types of beneficiary) concerning gender and aquaculture. Chair: Dr Zumilah Zainalaludin.
- **Gender research methods round-table:** Qualitative and Quantitative methods in gender research and writing gender papers eg: research

design for comparative analysis of seaweed farming and gender. Mini Workshop: Chair: Dr Marilyn Potter, + Co-Chair – to be advised.

- **Women, gender networks and associations for aquaculture and fisheries:** To explore why establishing and maintaining women and gender in fisheries and aquaculture networks and interest groups has proven difficult in all countries and regions. From experience, lessons learned, better understanding the needs and challenges, and brainstorming new pathways, explore options for future action in research, advocacy and development support. Chair: to be advised.
- **CGIAR mini-workshop on developing a gender transformative approach to research:** Different gender research approaches affect not only what kind of data are obtained, but if these will lead to meaningful increases in gender equality and to what extent. The CGIAR Research Program on Aquatic Agricultural Systems seeks to develop and use a gender transformative approach. This participatory mini-workshop will encourage participants to think through the key dimensions of a gender transformative research framework (i.e. research methodologies, questions and tools), and when and how it could be applied. Chair: Dr Miranda Morgan.

For more information, including on the process for submission of abstracts, please visit www.genderaquafish.org.

An anti-viral treatment for healthier black tiger prawns

CSIRO scientists in Australia have developed an antiviral capable of preventing prawn mortality from Gill-Associated Virus (GAV).

GAV is a virus which commonly infects black tiger prawns (*Penaeus monodon*) in eastern Australia. It can cause disease and death in prawns, and reduce the productivity of prawn farms.

CSIRO scientists Dr Melony Sellars, Dr Jeff Cowley and their team explored the possibility of inhibiting GAV replication, which would reduce the effects of the virus and/or have an antiviral effect on the prawns.

Customised double stranded ribonucleic acid (dsRNA) can be cleverly used by a prawn's natural cellular pathway as

antivirals. The cellular pathway targeted in this work is called the RNA interference (RNAi) pathway.

The team's work produced a highly-effective GAV antiviral – containing many small pieces of genetic code identical to that of the virus – which is capable of slowing virus replication

and preventing prawn mortality when injected into the tail muscle of black tiger prawns.

“The viral protection works as a result of RNAi, an intelligent in-built cellular pathway that prawns naturally have,” said researcher, Dr Melony Sellars.

“This means when fragments of the genetic code of the virus are injected into the prawn tail-muscle, the prawn induces a highly specific antiviral response that allows it to protect itself from the virus.”

The same method has been shown to work for other known viruses of commercial importance to aquaculture farmers, including White Spot Syndrome, Taura Syndrome, Yellow-Head and Mourilyan viruses. Components of the discovery have now been patented by CSIRO, providing access to the technology that will benefit the Australian prawn farming industry.

The new antiviral provides black tiger prawn breeders with a means of clearing viral infections from their prawn

breeding populations (broodstock) prior to spawning to break transmission cycles.

As part of a CSIRO Food Futures Flagship and Seafood Cooperative Research Centre initiative the technology will be tested at commercial companies in May 2013 for the first time, with tail muscle injection of the antiviral into broodstock black tiger prawns.

“We are really excited to know the technology will be commercially tested by our industry partners for the first time in May 2013 in black tigers,” said Dr Sellars.

CSIRO scientists are now in the process of further improving the pieces of genetic code used to produce the anti-viral.

Given the potential to deliver substantial positive economic implications for Australian prawn farmers, future R&D will focus on investigating alternative delivery methods, including oral delivery.

“Once more commercially-friendly methods are discovered, the applications of this technology will become seemingly endless and would most certainly result in significant financial benefits for prawn farmers,” Dr Sellars said.

This research is being funded by the Seafood Cooperative Research Centre, the Fisheries Research and Development Corporation and CSIRO’s Food Futures Flagship.

For more information on aquaculture research read CSIRO aquaculture research news or review Dr Sellars’ journal article.

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<http://www.csiro.au/en/Organisation-Structure/Flagships/Food-Futures-Flagship/Breed-Engineering-Theme/Aquaculture-Anti-viral-treatment-for-healthier-prawns.aspx>

Jungle perch on the comeback trail

Researchers at the Queensland Department of Agriculture, Fisheries and Forestry’s (DAFF) Bribie Island Research Centre have bred the first ever, captive jungle perch (*Khulia rupestris*) fingerlings.

Research leader Dr Michael Hutchison said the 35mm fingerlings were reared from fertilised eggs through to a size suitable for stocking into rivers over a period of 60 days.

“Previously no larvae have been reared beyond six days old and a few millimetres long,” Dr Hutchison said.

“Over the years, jungle perch have become very scarce but now there is the potential to reintroduce this species to rivers in South-eastern Queensland and in the Mackay-Whitsunday region.

“There are still significant challenges ahead to improve early larval survival and the production of sufficient quantities of fingerlings for viable restocking, but we have made tremendous progress to reach this point.

“This breakthrough is very exciting news not only for the sustainability of the species, but for the broader community and recreational fishers. Restocking our rivers with jungle perch would provide a big boost to local recreational fishing.”

Jungle perch are an iconic angling fish reaching more than 3kg in weight. Their habitat includes coastal rivers and streams from Cape York to Northern



David Nixon, Queensland Department of Agriculture, Fisheries and Forestry Technician with a 3.1 kg jungle perch at the Bribie Island Research Centre.

New South Wales. They spend most of their life in freshwater but migrate to salt water to spawn.

The jungle perch project is co-funded by the Fisheries Research and Development Corporation. On completion, the production technology will be provided to private commercial hatcheries.

Latest fisheries information is also available via Twitter - www.twitter.com/fisheriesQLD or find us on Facebook at www.facebook.com/FisheriesQueensland

For more information, contact Mark Hodder, email [mark.hodder 'at' daff.qld.gov.au](mailto:mark.hodder@daff.qld.gov.au).

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http://www.daff.qld.gov.au/30_22521.htm

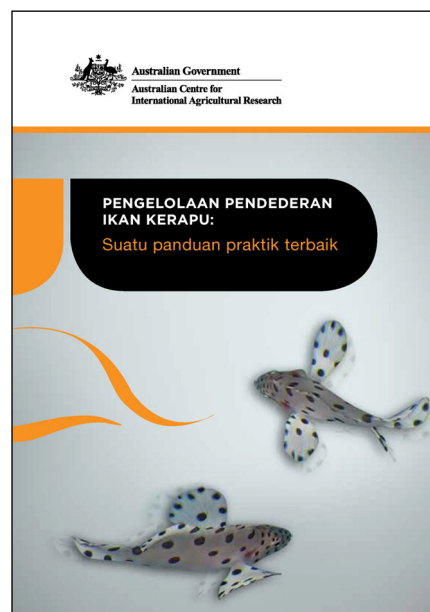
Nursery management of grouper: A best-practice manual [Indonesian translation]

Suko Ismi, Tatam Sutarmat, N.A. Giri, Michael A. Rimmer, Richard M.J. Knuckey, Anjanette C. Berding and Ketut Sugama

This is the Indonesian translation of a manual that provides practical guidelines for those engaged in the nursery culture of groupers in Indonesia as well as elsewhere in the tropics.

The nursery phase is an intermediate step between hatchery production of seed (ACIAR Monographs No. 149 and 149a) and stocking of grow-out farms. It involves growing delicate juvenile fish of 2–3 cm long through to physically robust animals of 5–10 cm long. The manual provides information on husbandry of groupers in the nursery phase, to reduce losses due to disease and cannibalism, and thus to increase the profitability of grouper nursing.

Download the manual for free (or purchase a hard copy) from: <http://aciar.gov.au/publication/MN150a>. The English version is also available from: <http://aciar.gov.au/publication/MN150>.



Hatchery management of tiger grouper (*Epinephelus fuscoguttatus*):

A best-practice manual [Indonesian translation]

Ketut Sugama, Michael A. Rimmer, Suko Ismi, Isti Koesharyani, Ketut Suwiry, N.A. Giri and Veronica R. Alava

This is the Indonesian translation of a hatchery manual that provides guidelines for the production of tiger grouper fingerlings. It outlines best-practice methods for broodstock maintenance, spawning, egg incubation and rearing of larvae through to 2–3 cm, fully metamorphosed juveniles.

The manual provides a valuable aid for improving the availability of grouper seed stock to support sustainable small-scale aquaculture in the Asia–Pacific region.

Download the manual for free (or purchase a hard copy from) <http://aciar.gov.au/publication/MN149a>. The English version is also available from: <http://aciar.gov.au/publication/MN149>.



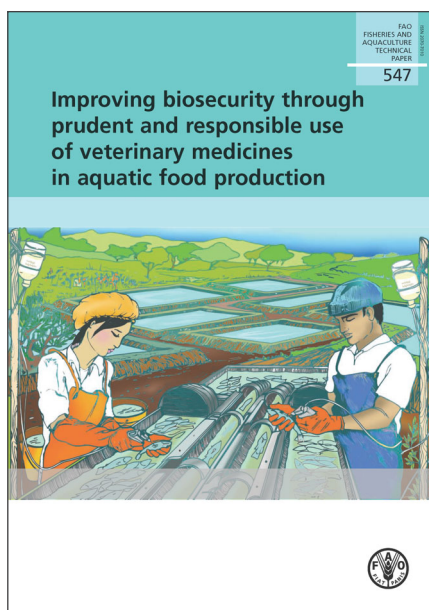
Priority adaptations to climate change for Pacific fisheries and aquaculture: reducing risks and capitalizing on opportunities

Johnson, J., Bell, J. & De Young, C. 2013.

This publication includes: (i) a summary of the technical presentations provided to the workshop participants on the implications of climate change for Pacific fisheries and aquaculture; and (ii) the outcomes of discussions by participants on the priority adaptations that Pacific island countries and territories (PICTs) can implement to reduce risks and take advantage of opportunities.

The workshop was hosted by the Secretariat of the Pacific Community (SPC) as the culmination of 3.5 years of work to assess the vulnerability of Pacific fisheries and aquaculture to climate change. It also formed part of a series of climate change awareness-raising and adaptation planning workshops around the globe financed through a Japanese-funded, and FAO-implemented, project "Climate Change, Fisheries and Aquaculture: Understanding the Consequences as a Basis for Planning and Implementing Suitable Responses and Adaptation Strategies" GCP/INT/253/JPN). The technical presentations and range of possible adaptations and supporting policies presented were based on SPC publications. Discussions focused on priority adaptations for economic development and government revenue, food security and sustainable livelihoods for Melanesian, Micronesian and Polynesian nations. The adaptations identified reflect the different fisheries participation rates and importance of fish to economic development and as a source of local food and income in these different regions.

The workshop discussions recommended immediate action by all PICTs to manage fisheries resources sustainably now and into the future, to establish systems to minimise impacts of various drivers facing the sector now and from future climate change, and to capitalise on opportunities. Cooperation between PICTs and partnerships among governments, regional and international organisations and communities were highlighted as important ways to implement effective adaptation.



Download it for free from the FAO website: <http://www.fao.org/docrep/017/i3159e/i3159e.pdf>

Improving biosecurity through prudent and responsible use of veterinary medicines in aquatic food production

Bondad-Reantaso, M.G., Arthur, J.R. & Subasinghe, R.P., eds. 2012.

The FAO/AAHRI Expert Workshop on Improving Biosecurity through Prudent and Responsible Use of Veterinary Medicines in Aquatic Food Production was convened in Bangkok, Thailand, in order to understand the current status of the use of antimicrobials in aquaculture and to discuss the concerns and impacts of their irresponsible use on human health, the aquatic environment and trade. Such discussions became the basis for drafting recommendations targeted for both government and private sectors and for developing guiding principles on the responsible use of antimicrobials in aquaculture to be considered as part of future FAO Code of Conduct for Responsible Fisheries (CCRF) Technical Guidelines on Prudent and Responsible Use of Veterinary Medicines in Aquaculture.

Because aquaculture is expected to continue to increase its contribution to the world's production of aquatic food, offer opportunities to alleviate poverty, increase employment and community development and reduce overexploitation of natural aquatic resources, appropriate guidance to aquaculture stakeholders on the responsible use of veterinary medicines has become



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NACA is a network composed of 18 member governments in the Asia-Pacific Region.



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essential. Safe and effective veterinary medicines need to be available for efficient aquaculture production, and their use should be in line with established principles on prudent use to safeguard public and animal health. The use of such medicines should be part of national and on-farm biosecurity plans and in accordance with an overall national policy for sustainable aquaculture.

This publication is presented in two parts: Part 1 contains 15 technical background papers presented during the expert workshop, contributed by 29 specialists, and which served as a basis for the expert workshop deliberations; Part 2 contains the highlights of the expert workshop.

Download it from the FAO website: <http://www.fao.org/docrep/016/ba0056e/ba0056e.pdf>