

**Secretariat of the Pacific Community**

**4th SPC Heads of Fisheries Meeting**

*(30 August – 3 September 2004, Noumea, New Caledonia)*

**Information Paper 14**

Original: English

**Institute of Marine Resources (IMR)  
at the University of the South Pacific**

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## **Summary**

The primary role of the Institute of Marine Resources (IMR), as with all USP Institutes, is to generate revenue for USP mainly by undertaking commercial work. The focus of IMR's work is externally-funded research and consultancies on the region's marine environment and its resources. Current activities centre on aquaculture, and on coral reef monitoring. IMR was re-located to Solomon Islands in 1995 but since 2000 has been based once more in Fiji. Here it is able to work closely with the Marine Studies Programme, supplementing their teaching, collaborating on some projects, and thus helping to achieve critical mass of USP staff engaged in marine topics such as aquaculture. In the medium term, the IMR is to re-locate once again to the Solomon Islands. The purpose of this paper is to provide Fisheries heads with an update of IMR's activities and capabilities in the region.

## **Profile**

The Institute of Marine Resources has been based at Laucala Campus in Fiji since April 2000 pending relocation a second time to Solomon Islands. In his Graduation Address held in Honiara in July 2004, Acting Vice-Chancellor Rajesh Chandra reiterated that IMR "belongs to Solomon Islands" and will return there "as soon as a site and facilities can be provided". Meanwhile IMR is operating from facilities at the Marine Studies Centre on Laucala Campus and works closely with the Marine Studies Programme. The main work areas are presently aquaculture, coral reef monitoring, and fisheries socio-economics.

Up until late 2003 IMR had 5 staff led by Director Dr Cameron Hay, who during this period also doubled as Acting Coordinator of the Marine Studies Programme. Some staff resignations occurred at this time, with freshwater aquaculture expert Satya Nandlal leaving to join SPC, Lynette Kumar joining FAO in Apia, and shrimp aquaculture expert Dr Alec Forbes joining ComSec in Namibia. In February 2004 IMR Director Cameron Hay himself left the University and returned to New Zealand. Dr Timothy Pickering, MSP Senior Lecturer in Aquaculture, was appointed Acting Director of IMR for a term of one year while the position is being advertised. Appointments of replacement staff with qualifications in aquaculture and coral reef monitoring have been made during 2004 to return staffing levels to 6 professional staff:

Dr Timothy Pickering (Acting Director)  
Mr Toata Molea (Fellow, on study leave)  
Mr Alan Resture (Fellow)  
Mr Avinash Singh (Fellow)  
Mr Reuben Sulu (Junior Fellow)  
Miss Shital Swarup (Scientific Officer)  
Mrs Frances Yaya (Clerical assistant)

## **Serving the Region**

The Institute of Marine Resources undertakes research and consultancies that underpin the sustainable development of marine resources in the region, mainly through its current foci on aquaculture and on coral reef monitoring. Socio-economic surveys to gauge the impact of development are also a feature of IMR's activities, for example in 2003 IMR conducted a socio-economic study for a Japanese proposal to install ice-plants and set up fish marketing infrastructure in remote north-east Vanua Levu in the Fiji Islands. IMR is building up a book and journal collection to support its activities in the region, and in 2003 received a substantial donation of scientific journals and books from the library of NIWA in New Zealand, transported to Fiji free-of-charge by the Royal New Zealand Air Force.

Though not a teaching arm of the University, the Institute of Marine Resources staff do contribute to under-graduate teaching and post-graduate supervision within the Marine Studies Programme. This was particularly so during 2003 when staff turnover rendered

MSP fully stretched in offering its usual line-up of courses. IMR includes post-graduate students in some of its commercial activities, to give them exposure to real-life situations and to provide study-topic opportunities for post-graduate courses. Newly-graduated students have also been offered training attachments on aquaculture hatchery techniques in the MSP/IMR shrimp hatchery project, to give them intensive hands-on experience before they return to take up jobs in their home countries.

IMR has received Government of France funding for a Tarawa Lagoon study in collaboration with IRD in Noumea, with a strong capacity-building component whereby two Kiribati nationals will implement the project as part of their post-graduate studies through Marine Studies Programme. Equipment and national capacity established in Kiribati under this project, allied with related initiatives by the Marine Studies Programme, will begin the process for a re-vitalization of a USP marine-related presence and activities in the atoll countries of the USP region.

In collaboration with Institute of Applied Sciences (IAS) and Biology Department the IMR can provide DNA/RNA PCR testing services and training in DNA techniques to detect viral diseases in live shrimp or prawns. Government of Fiji now requires that live shrimp imported to Fiji be tested by IMR using these techniques as part of their quarantine procedures. Marine Science Graduate Assistant Salote Waqairatu, supervised by IMR and Biology Department, is currently on an ACIAR-funded attachment in CSIRO's Brisbane genetics laboratories learning techniques and analysing samples to clarify the virus disease status of *monodon* shrimp in Fiji. Other quarantine-related work includes research for SPC to test a quarantine protocol for introductions of *Kappaphycus* seaweed into Pacific island countries for aquaculture.

IMR manages a C-SPODP-II funded project USP05 Global Coral Reef Monitoring Network (GCRMN) node for the South-West Pacific, and has set up monitoring networks in seven countries, provided monitoring equipment and training, collated information into a database, and provided contributions to the Global Status of Coral Reefs report. As part of the French-funded CRISP initiative, IMR will receive two years of funding to support a database operator for the "Reefbase" coral reefs database managed by Worldfish Centre.

The Institute of Marine Resources, jointly with Marine Studies Programme, has successfully transferred and fine-tuned techniques to breed and rear marine shrimp and freshwater prawns at USP. This now provides a platform for ongoing research, training and educational opportunities in shrimp aquaculture, and for expansion into commercial aquaculture activities. A relationship has been established with Montfort Boys Town near Suva which has now added tilapia-fish and prawn grow-out and broodstock-maintenance capability to USP's hatchery activities.

IMR coordinates the offer at USP of a three-week intensive course entitled "Tropical Marine Environments" for USP students and for international students enrolled through Macquarie University in Sydney, Australia. An additional three-week course in Tropical Fisheries & Aquaculture and a one-week introductory course on Coastal Environments is now also in preparation.