

Indigenous participation in aquaculture – the Pacific experience

Final Report to ACIAR

Contract No. C2003/148



Summary of Outcomes

As a result of issues highlighted during the workshop, five major actions will be undertaken to support and progress Indigenous and Pacific Island aquaculture development. They are:

- 1) organise a follow-on workshop at the next Australasian Aquaculture Conference in Adelaide in 2006;
- 2) publish a booklet which summarises some of the success stories in Indigenous and Pacific aquaculture, particularly those experienced at the community level;
- 3) publish a booklet explaining the strategic requirements and procedures for undertaking an aquaculture project;
- 4) establish a web site that will be hosted by the National Aquaculture Council (NAC) with links to the website of the Network of Aquaculture Centres in Asia (NACA) and the Secretariat of the Pacific Community (SPC) aquaculture portal; and
- 5) Continue development and implementation of miniprojects under ACIAR project *Sustainable aquaculture development in the Pacific Islands region and northern Australia* (FIS/2001/075).

Chair's summary: The ultimate goal is to develop realistic aquaculture ventures that are business minded in terms of their operation, financially viable for their sustainability, culturally appropriate and community sensitive.

Background

The workshop *Indigenous Participation in Aquaculture – the Pacific Experience* was held as a day-and-a-half session in the *Australasian Aquaculture 2004* conference at the Sydney Convention and Exhibition Centre, Darling Harbour, on 27–28 September 2004.

Australasian Aquaculture 2004 was a joint venture of the National Aquaculture Council (NAC), the World Aquaculture Society's (WAS) Asian-Pacific Chapter and the Tasmanian Aquaculture Council. It was hosted by the NSW Department of Primary Industries and sponsored by the Department of Agriculture, Fisheries and Forestry and the Fisheries R&D Corporation. It was the first in a biennial series of conferences to be held in different states of Australia to assist in promoting the development of sustainable aquaculture technologies in Australia and the wider Asia-Pacific region. The conference itself was a great success, with over 1,300 participants, including a substantial international attendance, and a strong trade show. The success of the conference has put this biennial series on a strong footing, and the next conference, *Australasian Aquaculture 2006*, will be held in Adelaide in August 2006.

A major aspect of the workshop *Indigenous Participation in Aquaculture – the Pacific Experience* was to promote exchange of information and experiences between researchers, government representatives and industry involved in aquaculture development in the Pacific. The SPC Aquaculture Section has formed an informal working group (the Pacific Aquaculture Working Group) in support of this objective, and this workshop was an activity of the Pacific Aquaculture Working Group.

The workshop also recognised the increasing interest in aquaculture as an industry that can provide benefits for rural Indigenous communities in Australia as well as in the Pacific Islands region. The Pacific has a diverse and vibrant tropical aquaculture industry, and has many commodities common to Australia (pearls, shrimp, sea cucumber, etc.). An additional aim of the workshop was to capture the experience of Pacific Islands aquaculture to develop linkages to support Indigenous aquaculture development in Australia.

Organising committee

Dr Mike Rimmer, Department of Primary Industries and Fisheries, Queensland, Australia

Dr Yves Harache, IFREMER, New Caledonia

Mr Ben Ponia, Secretariat of the Pacific Community, New Caledonia

Dr Warwick Nash, WorldFish, New Caledonia

Mr Dennis Ah-Kee, National Indigenous Aquaculture Unit, Department of Agriculture, Fisheries and Forestry, Australia

Mr Ian Lyall, Department of Primary Industries, New South Wales, Australia

Ms Cathy Hair, Department of Primary Industries and Fisheries, Queensland, Australia

Sponsorship

The workshop *Indigenous Participation in Aquaculture – the Pacific Experience* was sponsored by the Australian Agency for International Development (AusAID) under the International Seminar Support Scheme (ISSS), the Australian Centre for International Agricultural Research (ACIAR), the Australian Department of Agriculture, Fisheries and Forestry (DAFF) and NSW Department of Primary Industries. All these sponsors were recognised by the session chair in the opening and closing remarks on each day of the workshop. The sponsors' logos were displayed prominently on conference displays (Figure 1), the conference abstract book, and on the presentation screen at the beginning and end of each session (Figure 2).

Objectives

Prior to the workshop, the main objectives were identified as:

1. Promote the exchange of information and experiences between Pacific Island countries and Australia in support of Indigenous involvement in aquaculture.
2. Promote and support the involvement of Indigenous people in the aquaculture industry in Australia and the Pacific.
3. Assess the potential for adoption of Pacific Island cultured commodities and technologies to assist the development of Indigenous aquaculture in Australia.
4. Support the objectives of the Australian Aquaculture Action Agenda for Indigenous people.

Outcomes

The workshop was very successful and 23 presenters from eleven countries (Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, New Caledonia, New Zealand, Papua New Guinea, Samoa, Solomon Islands, Vanuatu) were well received. The presentations featured many successful Indigenous aquaculture ventures and highlighted economic, technical and cultural issues faced by communities in the region. The workshop was facilitated and chaired by Grant Sarra (Grant Sarra Consultancy Services), assisted by Dennis Ah-Kee as the co-chair.

During the workshop, key issues were noted, then raised for discussion in the final facilitated session. These issues are summarised below, listed in dot point under the relevant desired workshop outcomes (identified prior to the workshop).

Outcome 1: Identify key issues to assist Indigenous aquaculture development in Australia and the Pacific.

The issues discussed were:

- ‘Western’-style work practices and business frameworks are not always compatible with Indigenous operations. Cultural issues and the history of developments in Indigenous communities (conflicting cultural demands, availability of “sit-down” money) must be considered.
- There is a strong need to consider cultural issues when planning and implementing technical training for Indigenous groups (e.g. consider limited literacy, focus on group-based rather than individual problem solving, ‘hands-on’ training, imaginative solutions to facilitate training and maintain interest).
- There is a need for business (eg budgeting) as well as technical training.
- More direct Indigenous involvement in management was recommended. Success and ownership are positive forces and perpetuate success.
- It was noted that small-scale, extensive systems give direct benefits to communities and families (food security, cash income). Larger operations may have to contribute in different ways (employment, scholarships). It must also be recognised that indirect benefits in the form of employment pride, improved self-esteem, production of species of “cultural” value, etc, are very important.
- There is a need to recognise that cultures are different but that common elements exist and there is potential for collaboration in many areas.
- Consultations, negotiations and business operations must be appropriate to the cultural obligations and sensitivities within communities.
- Complicated ownership systems (both land and sea tenure) must be taken into account in the establishment of aquaculture operations.
- Enhanced income by groups may cause conflict within the community.
- Environmental Scanning needs to take cultural factors/issues into account

- There is a need to manage expectations within communities and to deliver on promises. Long production time-frames may cause communities to lose interest.
- There is a need to identify social issues regarding Indigenous aquaculture development.
- Full-time employment in an aquaculture industry may not be appropriate or necessary. For example, paid ‘blocks’ of time may be more effective and acceptable.
- There can be delays associated with resolving intellectual property (IP) issues, particularly those associated with traditional knowledge. Many communities and/or individuals don’t want traditional knowledge recorded in writing or given to other groups.
- Capacity-building amongst communities should focus on younger people. Consider mentoring from elders, utilise experience from other aquaculture businesses.
- Collaboration in sponge marketing – develop critical mass to fulfil market demand.
- Focus on interested groups and issues to assist those groups, and not the big picture.
- Environmental issues – understanding of why it is so important to people.

Outcome 2: Develop a collaborative framework to advance Indigenous involvement in aquaculture in Australia and the Pacific.

- There is a need to develop regional centres of research and development (training, extension, advice, support, expertise) and provide institutional support.
- The Pacific / Indigenous Aquaculture session is to be included in *Australasian Aquaculture 2006* in Adelaide and in subsequent conferences to maintain interest and focus, report on progress made and promote new ideas.
 - **Output: commitment to include similar workshop every year.**
- Development of a “One-stop” internet shop for Indigenous groups seeking information on how to develop an aquaculture project would be a very useful first step in supporting Indigenous aquaculture. Consider Australian Indigenous and Pacific Islands network. Form links with established websites, e.g. SPC and NACA. One of NAC’s objectives is to support the development of a website for information and contacts, enhance communications.
 - **Output: website to be hosted by NAC.**

Outcome 3: Prepare a report on issues identified in a facilitated workshop, reviewing the day’s proceedings.

- Write up the outcomes of the meeting and distribute to interested parties (participants, sponsors, government agencies).
 - **Output: this document.**
- Develop a basic booklet to outline the strategic requirements, issues and working relationships for establishing Indigenous Aquaculture Ventures. This can be distributed widely to Indigenous communities.
 - **Output: published booklet.**
- ‘Good news’ examples of successful aquaculture ventures that can provide positive stimuli to other ventures.
 - **Output: publication on successful case studies.**

Outcome 4: Utilise these outcomes to assist implementation of aquaculture development in the Pacific Islands region.

- A major outcome from the workshop with regard to implementation of aquaculture development in the Pacific Islands region was the opportunity for workshop participants from PNG, Solomon Islands, Samoa, Fiji, Kiribati, Cook Islands and Vanuatu to interact with each other and with Australian workshop participants, and to participate in a large international technical conference.
- Through providing a forum for Pacific participants to interact, the workshop contributed directly to the Aquaculture outputs of the SPC Coastal Fisheries Program Strategic Plan 2003–2005, particularly Output 1.1: *Establishment and maintenance of a regional network of contacts as a means of exchanging ideas, knowledge and experience on Pacific aquaculture issues*. This network will be maintained and expanded through the mechanisms identified in this report.
- The workshop also contributed to Output 1.3: *Development of the Pacific Island human resource base for aquaculture*. Participation in an international workshop / conference assisted in building capacity in regard to presentation techniques and networking with other practitioners within and outside the Pacific Islands region, as well as providing exposure to the wider Australasian aquaculture scene.
- The workshop provided opportunity for identification and finalisation of collaborative ‘miniproject’ proposals to be funded under the ACIAR project *Sustainable aquaculture development in the Pacific Islands region and northern Australia* (FIS/2001/075). These include:
 - Development of commercial and farm-made feeds for tilapia and freshwater prawn in PNG and Fiji.
 - Monoculture of the freshwater prawn *Macrobrachium lar* in Vanuatu and integrated prawn-taro farming in Wallis & Futuna.
 - Training in microalgal culture technology for Samoa.
- **Output: Two miniproject proposals submitted for funding.**
- There was general agreement amongst participants that many of the cultural issues raised by Australian Indigenous participants were also applicable to Pacific Island Countries.

Outcome 5: Utilise these outcomes to assist implementation of the National Aquaculture Development Strategy for Indigenous Communities in Australia.

- Continuity of funding or support is very important.
- Recognise the importance of risk analysis. It is important to thoroughly research the proposed operation/species/system before proceeding. Should be appropriate to the cultural group and have high probability of success. Need to recognise that promises must be realistic.
- Maintain the Networks established from this conference.
- Strategic Planning Directions – Need to plan What, How, When – we know why.
- Develop partnerships with existing industry – Skretting example (Bathurst Island, NT – Tiwi people). May have both positive and negative impacts (e.g. sit-down money from mining companies).

Appendix 1 – Workshop Program

INDIGENOUS AND PACIFIC ISLAND AQUACULTURE

Monday, September 27 10:40 - 17:30 Promenade 1

Session Chairs: Grant Sarra & Dennis Ah-Kee

10:40 Grant Sarra

INTRODUCTION, WORKSHOP OBJECTIVES

11:00 Ben Ponia

AQUACULTURE DEVELOPMENT IN THE PACIFIC

11:20 Sheree Rankmore

CURRENT STATUS OF THE WOLLONGONG ABORIGINAL AQUACULTURE CORPORATION

11:40 Jacob Wani

AQUACULTURE DEVELOPMENT IN PNG

12:00 Filomone Mate

INDIGENOUS AQUACULTURE IN THE FIJI ISLANDS

13:40 Shane Willis

TRAINING ISSUES ASSOCIATED WITH SNOWY RIVER NATIVE FISH HATCHERY

14:00 Chris Robertson

INDIGENOUS AQUACULTURE DEVELOPMENT IN NORTH QUEENSLAND, AUSTRALIA

14:20 Jason Karpany

AQUACULTURE ACTIVITIES AT NALTA RUWE

14:40 Graham Haylor

STREAM

15:00 Timothy Pickering, Merekeleni Namudu, Bill Johnstone

PICKING WINNERS FOR INDIGENOUS AQUACULTURE: RECENT EXPERIENCES AND SOCIOECONOMIC TECHNIQUES FROM THE FIJI ISLANDS

15:50 Malwine Lober

SAMOA TROCHUS ENHANCEMENT PROJECT

16:10 Robert A. Jimmy

COMMUNITY BASED TROCHUS CULTURE INITIATIVE IN VANUATU

16:30 Charla Clements

AN OVERVIEW OF THE KIMBERLEY AQUACULTURE ABORIGINAL CORPORATION

16:50 Beero Tioti

DEVELOPMENT TOWARDS A CULTURED PEARL INDUSTRY IN KIRIBATI, CENTRAL PACIFIC

17:10 Masahiro Ito

PEARL AQUACULTURE DEVELOPMENT PROJECT IN THE FEDERATED STATES OF MICRONESIA, WESTERN CENTRAL PACIFIC

INDIGENOUS AND PACIFIC ISLAND AQUACULTURE

Tuesday, September 28 8:15 - 12:20 Promenade 1

Session Chairs: Grant Sarra & Dennis Ah-Kee

8:15 Grant Sarra

INTRODUCTION TO THE SESSION

8:30 Cathy Hair

CAPTURE AND CULTURE OF PRE-SETTLEMENT CORAL REEF FISH FOR THE MARINE AQUARIUM TRADE IN SOLOMON ISLANDS

8:50 Steven W. Purcell

RAPID GROWTH AND BIOTURBATION ACTIVITY OF THE SEA CUCUMBER *Holothuria scabra* IN EARTHEN PONDS

9:10 Ian Middleton

COMMERCIAL BARRAMUNDI *Lates calcarifer* FARMING WITH RURAL VILLAGERS ALONG THE NORTH COAST OF MADANG, PAPUA NEW GUINEA

9:30 Sheryl Miller

DEVELOPING LOW-COST AQUACULTURE SYSTEMS ACCESSIBLE TO COASTAL MĀORI

9:50 Bruno Castelain

EVOLUTION OF SHRIMP FARMING IN NEW CALEDONIA: STRATEGIC CHOICES AND DEVELOPMENT POLICY OF THE NORTHERN PROVINCE

10:40 Ray Hall

AQUACULTURE IN THE NORTHERN TERRITORY: BAWINANGA ABORIGINAL CORPORATION

11:00 Cletus Oengpepa

DEVELOPMENT OF GIANT CLAM AQUACULTURE IN SOLOMON ISLANDS

11:20 E. A. Evans-Illidge, C. W. W. Wolff, A. R. Duckworth, C. N. Battershill, R. Bannister, S. Whalan, D. Loudon, R. DeNys, G. Dobson, D. Steinberg

EXPLORING THE POTENTIAL OF SPONGE AQUACULTURE WITH REMOTE COASTAL AUSTRALIAN COMMUNITIES

11:40 Raymond Newnham

THE MARKETING OF COOK ISLANDS BLACK PEARLS

12:00 Grant Sarra

WAY FORWARD



Figure 1 Sponsors' logos were displayed prominently on sponsorship displays throughout the conference.



Figure 2 Session sponsors' logos were displayed on the presentation screen at the beginning and end of each session