SWIOFP Fisheries Training Course
1 - 4 July 2009

Venue: Oceanographic Research Institute, Durban, South Africa

Report by: Dr Johan Groeneveld, Oceanographic Research Institute, Durban, South Africa, Ph+27 31 3288222 (swiofp@ori.org.za)

Background

The Contract between the South West Indian Ocean Fisheries Project (SWIOFP) and the Oceanographic Research Institute (ORI) requires that ORI provides a report on the Fisheries Training Course after its conclusion. The three aspects to be addressed in the report are as follows:

- Provide an inception report listing any preparations undertaken prior to the beginning of the training, including list of accepted participants, resource persons and course outline;
- Provide, within a reasonable time, a workshop report including brief description of course content, course evaluation and any recommendations;
- Award certificates of attendance.

These three points are addressed below.

a) Inception report and preparations undertaken

1. The Oceanographic Research Institute (ORI) was asked by the SWIOFP Interim Regional Executive Secretary (Mr. Kaitira Katonda) to organize and present a theoretical and practical Fisheries Training Course to scientists from the region likely to participate in SWIOFP sampling surveys at sea. The course was scheduled to take place at ORI between Wednesday 1st July and Saturday 4th July 2009. An ice-breaker function and guided tour of the UShaka aquarium complex on the evening of the 30th June was included in the course, as a means of introducing the participants to each-other and to the course-organizers, and to show them some of the diversity of the Western Indian Ocean biota.

2. A course schedule was prepared (see Annexure 1) which included a series of relevant theoretical and practical modules to be presented by experts. All of the experts invited to present on the course are well-known in their respective fields, both in the region and internationally. The list of the presenters, their affiliations, field of expertise, and the *training modules in which they were involved* are as follows:

- Dr Johan Groeneveld, Senior Scientist at ORI, Fisheries biologist & specialist in crustacean biology and surveys: – *Overview of the SWIOFP Project; Introduction to survey strategy and sampling methods; Crustacean identification, trap-surveys and sampling methods*;

- Prof. Rudy van der Elst, Director of ORI, Fisheries biologist & specialist in WIO fish and fisheries: – *Western Indian Ocean fisheries resources and fishers;*

- Mr. Bruce Mann, Senior Scientists at ORI, Fish biologist: – *Fish identification and taxonomy; Biological sampling methods (length/weight and size composition; reproduction; age and growth; feeding biology)*;

- Dr. Sean Fennessy, Senior Scientist at ORI, Fisheries biologist & specialist in Crustacean trawl fisheries – *Bycatches of Crustacean trawl fisheries and the use of BRDs and TEDs;*

- Mr Johan Rademan, Senior Technician in Fisheries Acoustics, Marine and Coastal Management, Cape Town, South Africa; Acoustics survey specialist: – *Introduction to Acoustics sampling surveys and midwater trawling;*

- Mr Dave Japp, Fisheries Consultant, CapFish cc, Cape Town, South Africa; Fisheries biologist & specialist in demersal trawl surveys - *Demersal trawl survey techniques and survey design*;

- Ms. Melanie Smith, Fisheries Consultant, CapFish cc, Cape Town, South Africa; Coordinator of Fisheries Observer programmes – *Use of scientific fisheries observers in Fisheries Research*.

3. The SWIOFP National Management Units (focal points) in the 8 member countries (South Africa, Mozambique, Tanzania, Kenya, Seychelles, Comores, Madagascar, and Mauritius) were requested to select a maximum of 4 scientists per country to attend the course. Criteria for selection were that trainees would be active in SWIOFP surveys scheduled to be undertaken over the next 4 years, and that they had been active in fisheries research projects at pre- or post-graduate levels. The list of 28 accepted participants included 4 per country for Kenya, Mauritius, Mozambique, Seychelles, and South Africa, 3 per country for Comores and Madagascar, and 2 trainees for Tanzania (see list of names and affiliations in Annexure 2).

4. The logistic organization of the course was undertaken by Ms. Alison Moor at ORI, and included communications with trainees, presenters, and national focal points prior to the course, formal invitations for visa purposes, booking of plane tickets (for presenters), booking and preparation of the venue (Conference Hall at ORI), assistance to trainees in booking hotels and obtaining transport to / from the airport and between hotels and ORI, photocopying of course notes, planning and organization of meals and teas, and financial management of the course. Ms Moor was assisted by Mrs. Ramini Naidoo and a travel agent.

5. Costs of air transfers, hotels, and per diems were covered by the SWIOFP National Management Units of each country, using SWIOFP funds in the category for training.

b) Course report and evaluation

6. The course included both theoretical and practical sessions, and followed the schedule shown in Annexure 1 closely. Most of the sessions started off with theoretical training (mostly Power-point presentations with interactive question and answer sessions), followed by a practical demonstration on live or defrosted specimens, and opportunities to perform the sampling techniques individually. Examples of hands-on training were the identification of fish species using counts of fin-rays, excising of otoliths, and tagging and measurement of live lobsters.

7. Data analysis methods were demonstrated on MS Excel spreadsheets (on overhead) for simple analyses including length-weight regressions, analysis of size composition, fitting of size at maturity ogives and age-length keys.

8. The module on Acoustics surveys (day 2) occupied only a morning (instead of a full day), and additional lectures on the bycatches of crustacean trawl fisheries and testing and implementation of Bycatch Reduction Devices (BRDs) (Dr. Fennessy) and on feeding biology of fishes (Mr. Mann) were slotted into the remaining timeslots.

9. All of the trainees attended all of the sessions and no absentees were recorded for any of the sessions.

10. The final session (Mr Dave Japp) included a practical session in groups in which each group had to design a multidisciplinary survey to determine the biomass of a fisheries resource, either on rocky substrata (i.e. for spiny lobsters), or on muddy grounds (for soles), or across a large and diverse area (for mixed resources). This final session brought much of the week's training together, and showed that the trainees had indeed learnt much over the course of the week.

11. There can be no doubt that the 2009 SWIOFP Fisheries Training Course was highly successful and well attended, and that it contributed significantly to capacity building in the region. It is, however, important that the trainees now use all the opportunities that they will have in SWIOFP to go to sea on the F/V Dr Fridtjof Nansen, other research vessels, wet-leased vessels and as fisheries observers on commercial vessels, to put into practice the new techniques that they have learnt on the course.

c) Certificates of attendance

12. Certificates of attendance bearing the logo's of SWIOFP (new logo), the World Bank and ORI were designed by Ms Moor (see Annexure 3), printed in colour, and awarded to each trainee at the conclusion of the course.

ANNEXURE 1: Schedule for training course

	Time	Lecturer	Title	Comments
Tuesday 30 June 2009				
Icebreaker Function UShaka aquarium	17.00-19.00	Ice-breaker function and guided tour through the UShaka aquarium complex		
Wednesday 1 July 2009 DAY 1				
	8.30-8.45 (15 min)	Rudy van der Elst	Welcome and Introductions	
	8.45-9.00 (15 min)	Johan Groeneveld	House keeping	Course notes handed out
	9.00-10.30 (90 min)	Johan Groeneveld	Overview of the SWIOFP project & Survey strategy and sampling methods	Overview of the SWIOFP project to explain its geographical extent, objectives, and structure; & Modern research ships allow for the integration of multiple sampling methods on a single survey, including biological and oceanographic sampling. The strategy followed by a recent survey is used as an introduction to the sessions to follow.
Morning Tea	10.30-11.00			
	11.00-12.30 (90 min)	Rudy van der Elst	WIO fisheries resources and fishers – are they regional?	Introduction to the major fisheries resources of the WIO region, focusing on migrating and shared stocks. A large variety of fishing methods and fleets exist, from hand collection to modern industrial trawlers and long-liners. Examples will be shown from different countries and fishing sectors within the WIO.
Lunch	12.30-13.15			

	13.15-14.45 (90 min)	Bruce Mann	Fish identification / Taxonomy	The session introduces basic taxonomic principles and the methods used to classify fishes.
Afternoon Tea	14.45-15.15			
	15.15-16.45 (90 min)	Bruce Mann & Johan Groeneveld	Crustacean identification, trap surveys and sampling methods	The session expands on the identification of the major fished groups of crustaceans (prawns, lobsters and crabs), design of trap surveys, and basic sampling techniques used for lobsters.
Thursday 2 July 2009 DAY 2				
	8h30-10h30 (120 min)	Johan Rademan	Acoustic sampling 2: Continued	Introduction to acoustic sampling surveys (background, principles, equipment and methods)
Morning Tea	10.30-11.00			
	11.00-12.30 (90 min)	Johan Rademan	Acoustic sampling 2: Continued	Continued
Lunch	12.30-13.15			
	13.15-14.45 (90 min)	Bruce Mann	Biological sampling 1: Length / weight and size composition	Length / sex and weight information – how are the data collected and analyzed, and what do the results tell you?
Afternoon Tea	14.45-15.15			
	15.15-16.45 (90 min)	Bruce Mann	Biological sampling 2: Reproduction	Size at maturity, reproductive activity (i.e. staging of gonads) and fecundity – how are data collected and analyzed, and what do the results tell you?
Friday 3 July 2009 DAY 3				
	8h30-10h30 (120 min)	Bruce Mann	Biological sampling 3: Age and growth & Feeding biology	Collection and processing of otoliths for ageing, and data analysis to determine growth rates
Morning Tea	10.30-11.00			
	11.00-12.30 (90 min)	Johan Groeneveld / Sean Fennessy	Schedule of SWIOFP cruises in 2009-2011 & Bycatches of Crustacean trawl	The schedule for SWIOFP cruises to be undertake in 2009-2011 was shown and opportunities for fisheries scientists were highlighted Crustacean trawl fisheries in the WIO report very high levels of

			Fisheries and testing BRDs	retained and discarded by-catches with major effects on the biodiversity of the region. The use of BRDs to reduce the impact of these fisheries was shown, as well as sampling techniques required to test the efficiency of new BRD designs.
Lunch	12.30-13.15			
	14.00-17.00	Afternoon off		
Saturday 4 July 2009 DAY 4				
	8h30-10h00 (90 min)	Dave Japp	Survey strategies 1: Use of fisheries observers	Placing fisheries observers on commercial fishing vessels is an important tool in fisheries research and management. The types of data that can be collected, training and deployment of observers, and examples of where it has been used are shown.
Morning Tea	10.00-10.15			
	10.15-11.45 (90 min)	Dave Japp	Survey strategies 2: Demersal trawl surveys	Survey design, protocols and sampling strategy used for demersal trawl surveys are shown.
Lunch	11.45-12.30			
	12.30-14.00 (90 min)	Dave Japp	Survey strategies 3: Practical aspects of survey design	The session covers the practical aspects of survey design with examples
Afternoon Tea	14.00-14.15			
	14.15-15.00 (45 min)	Johan Groeneveld	Closing ceremony	Certificates, Comments