TERMS OF REFERENCE
relating to the MOU for

Technical Assistance from the Indian Ocean Tuna Commission and
the Overseas Fishery Cooperation Foundation
to
the Marine Science Research and Resources Center, Yemen

The Indian Ocean Tuna Commission and the Overseas Fishery Cooperation Foundation is to provide technical assistance to the Marine Science Research and Resources Center of Aden with purpose of the enhancement of the data collection and processing system for tuna fisheries in Yemen.

The draft terms of reference for this project are as follows:

ANNEX A: TECHNICAL DESCRIPTION OF THE ACTIVITIES

Background

The objective of this Sampling Program is to gather information on the activity, catches per species and size composition of the catches unloaded by artisanal boats in Sheher and Al-hami (Hadramout Governorate) and a location in Al-maharah Governorate.

The data collected will be used to estimate the total catches and size composition of the catch of IOTC species and other species unloaded in the locations referred to above, in order to assess:

- The *accuracy* of the catches estimated by other sources for the same locations and periods as an indication of the quality of the catches estimated in recent years for these and other landing sites in Yemen

- The length distribution for species in the catch, notably yellowfin tuna

- The optimum sample size and sampling strategy to obtain precise catch, effort and size frequency estimates from the fleets operating in these areas

Data collection and processing will be carried out by Marine Science Research and Resources Center (MSRRC) scientists and technicians. The information obtained in the three landing locations will be merged and processed jointly for the calculation of total catches and size distribution of the species caught in these locations.

Terms of Reference

DESCRIPTION OF ACTIVITIES/SERVICES

The data collection and sampling activities will be conducted by MSRRC personnel in Hadramout and Al-mahrah Governorates.

The main activities to carry out under the scope of the Program are:

1. Compilation of data on catches from sources other than sampling: MSRRC staff should compile information on catches and size frequency, if available, from the following sources:

    1.1. Ministry of Fish Wealth: Total catches estimated per landing location, month and species, mainly in the three locations.

    1.2. World Bank/EC Project: Total catches estimated per landing location, month and species, mainly in the three locations, if they differ from the above.

    1.3. Cooperatives: Total catches per species and main sizes as recorded by fish cooperatives in the three locations.

1.4. Private sector: Total catches per species and main sizes as recorded by the private sector in the three locations.

2. Collection of Boat Activity information in the three locations: MSRRC enumerators should record all vessel unloadings (landings) of artisanal boats. The Sampling Team Leaders should check that the information below is recorded each day:

Landing place
Date: Day/Month/Year
Vessel Name/type
Name skipper
Gear/s used
Area fished
Time at sea
Total catch on board (estimate from boat skipper)

The collection of activity records should take place throughout the duration of the Program covering the 100% of the arrivals of artisanal boats to the three locations.

(Refer to the IOTC Form *Boat Activity Record* for more details on the use of the data required.)

3. Sampling of the catches unloaded by artisanal boats:

The sampling will consist on the collection of length data of tuna, tuna-like, sharks and other species unloaded in the three locations. The 100% of the specimens unloaded from the boats chosen for sampling should be monitored.

Length-weight samples per species will be taken as a complement of the routine sampling in order to obtain the data needed to convert recorded lengths into weights.

4. Computerization of boat activity and sampling data: All data recorded during the sampling program will be input at the MSRRC headquarters in Aden. Two database entry persons will input the information as it is received by using the IOTC software Yemen.mdb in the computers provided by IOTC/OFCF.

The IOTC Field Manual for Data Collection on Landings from Artisanal fisheries in Yemen (hereinafter referred to as the "IOTC Field Manual"), should be used by the sampling team as reference for the completion of the tasks to undertake regarding the Program.

The software Yemen.mdb (IOTC) will be used to input all data collected under the program.

The tasks and responsibilities of staff working for the Project are summarized in the Table below:

Post	No. Staff	Terms Of Reference	Details
Project Leader	1	Allocation of IOTC/OFCF budget Appointment of Project Staff Coordination of sampling and data input activities Training of Samplers and data input staff Edition of quarterly reports to the MFW, Cooperatives, private sector and Project Staff in connection with the data input leader Coordinate the exchange of information collected through the Project and that from other sources Coordinate the Submission of Progress Reports and Financial Reports to the IOTC	Progress and Financial Reports have to be send quarterly and a Final Report within the month following the termination of the Project. The Progress Report will consist on the compilation of Reports from Overall Supervisor, Local Supervisors and Database Administrator

Post	No. Staff	Terms Of Reference	Details
		Secretary	
Database Input Leader	1	Monitoring the computerization of sampling and vessel activity data, including validation and verification of the data produced by using the IOTC validation and verification routines Compilation of data from the different landing locations Training of Data Entry Staff Computerization of Boat Activity Information Compilation and computerization of data from other sources Monitoring and transmission of database backups and Master Database Backup Reporting of progress concerning database input to the MSRRC and the IOTC/OFCF Run procedures to create standard tables and charts to feed template reports to the Industry and project staff in connection with the Project Leader	Monthly trip to landing places to compile the information collected by enumerators and back-office report on arrival (by using the template provided by the IOTC/OFCF Project) Daily computerization of records using the software Yemen.mdb Daily database backup Transmission of database backups through IOTC ftp site to the IOTC Secretariat every month Safe storage of backups using external media (e.g. CD Rom)
Data Input Staff	1	Computerization of Sampling Data	Daily computerization of records using the software Yemen.mdb
Sampling leader	3	Collection of vessel activity records Selection of boats to Sample per landing location by following the procedures established by the IOTC/OFCF Reporting to Project Leader on the progress achieved	Completion of Summary Report on Sampling activities and coverage levels (monthly)
Samplers (enumerators)	4	Sampling of Landings of artisanal boats Sampling data gathering and submission to sampling leader in a timely manner (daily or weekly)	As specified in the "IOTC Field Manual for Data Collection on artisanal fisheries in Yemen"

DEFINITION OF OUTPUTS, MONITORING AND PROGRESS REPORTING

The MSRRC Project Leader will, in cooperation with the IOTC/OFCF Monitoring Officers, assess the progress of sampling and data entry activities by enumerator teams and data input staff during the 15 days following the termination of the Project. A team performance bonus, as specified on next page, Detailed Budget, will be paid to enumerator teams and data entry staff on the basis of the performance of each team. Bonuses will be proportionally broken among the enumerator/data entry team individuals. The criteria to evaluate performance will be:

- Sampling Activities:
  - Reports from Sampling Leaders indicating that the objectives of sampling have been achieved (i.e. timely and complete collection of vessel activity records, selection of vessel landings to sample properly conducted, sufficient coverage of boat unloadings per month, good species identification, fish lengths recorded according to sampling design, etc.).
  - Routine data consistency procedures run by data input leader indicating a good quality sampling.
- Data Input Activities:

- o Reports from Data input Leader indicating that data are input properly (e.g. landing and sampling data input timely, data input in a consistent way, data validated after entry through standard reports, manual backups and copies in external media routinely performed, etc.)
- o Routine data validation and verification procedures run by data input leader indicating a low amount of mistakes related with data input.

DURATION AND TIMING

The Program will last from ?? 1st, 2007 to March 31st, 2008. The collection and reporting of data should take place throughout the duration of the Program. The Program will be extended after its conclusion upon agreement between the MSRRC and IOTC-OFCF.

Inputs to be provided in kind by the recipient organization

The computerization of the data issuing from sampling will take place in the MSRRC (Aden).

The Project Leader will be responsible for the coordination of training sessions once that the data input and sampling activities have been initiated.

The Project Leader will be responsible for the translation of the Sampling and User Manuals and other materials into Arabic.

Inputs to be provided in kind by IOTC/OFCF

IOTC-OFCF will provide a "Manual for data collection from the artisanal fisheries operating in Yemen" and a "Database Administration and User's Manual" within the month after the start of the Project.

IOTC-OFCF will provide fish measuring tools as required by the Project

IOTC-OFCF will provide the database that will be used to input all data recorded from the Project.

IOTC-OFCF will coordinate, in cooperation with the Project Leader, the first training sessions on data input and data collection for Project staff.

All trips of IOTC-OFCF staff to Yemen will be covered by using funds other than those allocated to the Project.