iotc **Indian Ocean Tuna Commission**
ctoi **Commission des Thons de l'Océan Indien**

SEVENTH SESSION OF THE SCIENTIFIC COMMITTEE
MAHÉ, SEYCHELLES, 8-12 NOVEMBER 2004
Development of an IOTC Field Manual

Introduction

The last meeting of the Working Party on Data Collection and Statistics recommended that the IOTC Secretariat develop a proposal for an IOTC Field Manual to be presented in 2004.

The proposal developed by the Secretariat is outlined in the next section.

Proposed outline for an IOTC Field Manual

About the Indian Ocean Tuna Commission

- Objectives, functions and responsibilities of the Commission
- IOTC Area of Competence
- Legal Framework and IOTC Resolutions Relating to the collection and reporting of Statistical Data
- The role of the IOTC Secretariat

Guidelines for the Collection of Fisheries Data

1. **Rationale and Organization**

   Why? (Uses of Basic Fishery Data)

   i. Social and Economic

   ii. Sustainability of Resource

   iii. Planning and Policy Making

   iv. Obligations to Regional Fishery Bodies

   What? (Type of Data to Collect)

   i. Routine Statistics versus Research Data

   ii. Catch and effort and Size Frequency Data:

      a. Catches per Gear and Species

      b. Effort

      c. Craft Statistics and Vessel Activity

      d. Size data

      e. Types of Fishery (long range *vs* short range): Landings *vs* Logbooks

   iii. Economics: Fish Prices, etc.

    iv.   Other: social, etc.

Who? (Institutions Involved)

    i.   Data Collection (Research or Routine)

    ii.   Planning

    iii.   Surveillance (At sea and on the ground)

    iv.   Food Security

2. Implementation

Catch Estimation Methods: complete enumeration or sampling

    i.   Estimating effort: Census or sampling

    ii.   Estimating catch: Trip and/or landing and/or sampling information

Sampling Surveys

    i.   Frame surveys and seasonality of fisheries

    ii.   Defining units of effort and catch

    iii.   Identifying the source/s of fisheries data and its reliability

    iv.   Selecting time and area strata (fixed and estimated strata)

Sampling Design

    i.   Bargaining: optimizing the use of resources

    ii.   Selecting a sampling unit

    iii.   Sampling Strategy

    iv.   Estimating an optimum sampling size

    v.   Establishing a chain of command

    vi.   Training of supervisors: Supervision Manuals and actual training

    vii.   Training of samplers: Sampling Manuals and actual training

    viii.   Flow of data

Database Design

    i.   Everyone for himself or all in one: Specificity versus versatility

    ii.   The role of a database administrator

    iii.   Starting the house by the roof: defining the database structure

    iv.   Training of data input staff: Data input Manuals

    v.   Importance of integrated data validation (referential integrity and integrated error checking)

    vi.   The safer the better: Database maintenance

    vii.   The easier the better: Extracting data

Monitoring

    i.   Identifying changes in the fishery

        a.   How enumerators and supervisors can help

        b.   How computers can help

    ii.   Identifying errors in the collection/entry of data

        a.   Eye-based supervision: on the field (sampling supervisor)

        b.   Computer-based supervision: in the office (database administrator)

    iii.   Identifying sampling (design) errors and checking the accuracy of estimates

        a.   Estimation of precision and sampling biases

        b.   Routine Estimation of optimum sample size

Data processing

    i.   Computer versus manual processing

    ii.   Catch estimation

        a.   Timeliness versus completeness

        b.   Filling empty strata: building a substitution scheme

        c.   Interpreting the results: the power of historical data

        d.   Estimates are not for life: routine estimation of catches

Data dissemination

    i.   Tailoring data reports to needs

        a.   Government

        b.   Industry

        c.   Regional Fishery Bodies

    ii.   Extracting data to fit sporadic requests

    iii.   Creating generic procedures to extract data

3. Appendices

Forms for the Submission of data relating to IOTC Resolutions and Recommendations

IOTC Forms for the collection of catch and effort data from industrial fisheries

IOTC Forms for the collection of catch and effort and size frequency data from port sampling

IOTC Forms for the collection of data from Observer Programs

Description of main Gears used to catch tuna and/or tuna-like species

IOTC Species

    i.   Biology and main fisheries

    ii.   Identification

Identification of sharks and other species by-catch of tuna and tuna-like fisheries

Collection of size frequency data

    i.   Types of measurement: weight versus length data

    ii.   Recommended length measurements

    iii.   Length –length and length-weight relationships

IOTC conversion factors

    i.   Types of fish preservation and processing on-board

    ii.   Factors to convert from processed to round weight

    iii.   Type of length measurements recommended for processed fish

Glossary of Fisheries Terms

4. References