



ISO 9001 AS A METHOD TO IMPROVE DATA QUALITY ACROSS DATA COLLECTION SYSTEM



Author: Oscar Guzmán Fernández

Coauthors: Claudio Bernal Larrondo; Mauricio González Díaz; Juan Carrasco; González; Carlos Vera Elizondo; Marco Troncoso Guajardo. Instituto de Fomento Pesquero, División de Investigación Pesquera, Blanco 839, Valparaíso, Chile.

INTRODUCTION

In Chile the Institute for Fisheries Development (IFOP) has the mission to provide to the Undersecretary of Fisheries, the technical information and scientific basis for the regulation of Chilean Fisheries.

With the purpose to improve the process of data collection in large quantities and data management procedures, IFOP has developed a process based Data Quality Management System (DQMS) supported on ISO 9001 standard. By this way IFOP intend to ensure data quality, reliability, compatibility, interoperability, and efficiency.

ISO 9001 is a quality management standard. It applies to all types of organizations. It doesn't matter what size they are or what they do. It can help both product and service oriented organizations, to achieve standards of quality that are recognized and respected throughout the world.



DIMENSION OF THE PROBLEM TO PROVIDE WITH OPPORTUNE AND RELIABLE INFORMATION TO THE UNDERSECRETARY OF FISHERIES

REQUIREMENTS OF BIOLOGICAL AND FISHERIES DATA

- 7 Annual projects to monitor the national fisheries performance
- 4 Permanent fisheries research projects
- 6 Transitory fisheries research projects
- 6 Hydro acoustic research projects for fish assessment

COVERAGE OF DATA COLLECTO OF FISH, CRUSTACEANS AND BENTHIC RESOURCES

- 3300 annual surveys onboard industrial vessels;
- 14400 annual surveys to small scale fisheries vessels;
- 20500 annual inquiries of fishing log books;
- 2.9 million sample units of fish, crustaceans and benthic resources.

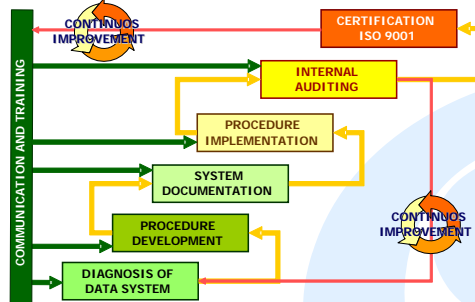
STAFF OF DATA COLLECTION SECTION

- 1 Chief Section
- 3 General Coordinator
- 13 Field Coordinators
- 154 Scientific Observers

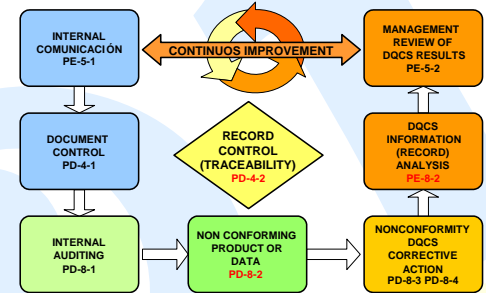
STAFF OF COMPUTER SCIENCE DEPARTMENT

- 1 Chief Department
- 6 Data Checkers
- 1 Data System Administrator
- 2 Data Base Administrator

FLOW CHART IMPLEMENTATION

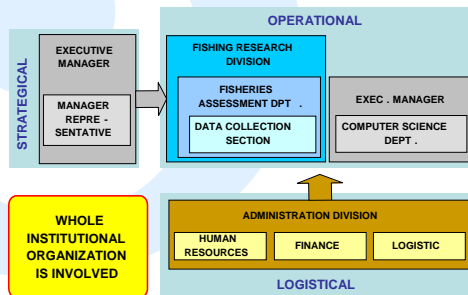


PROCEDURE OF DQMS INFORMATION ANALYSIS



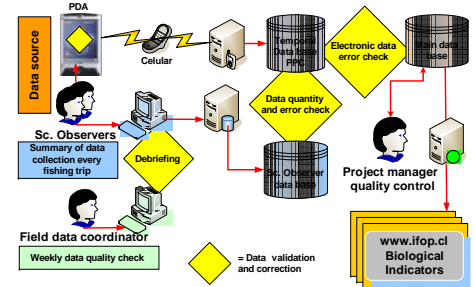
IMPLEMENTATION AND RESULTS

INSTITUTIONAL ENGAGEMENT



WHOLE INSTITUTIONAL ORGANIZATION IS INVOLVED

TECHNOLOGICAL PLATFORM FOR DATA QUANTITY AND ERROR CONTROL



MAIN IMPROVEMENTS UPHELD BY DQMS ISO 9001

- Data Requirements clearly defined by the Client (Project Manager), feasible to fulfill with the available resources (human, logistics, financial).
- Planning and control of data procedure. Monthly report of data quantity, opportunity, coverage and error.
- Formal evaluation of Client satisfaction. Review of Client claims.
- Half-yearly management review of DQMS results by Executive Management Staff. Definition of new quality objectives and continual improvement.
- Achievement of data reliability, compatibility, interoperability, and efficiency

Main attained changes upheld by DQMS ISO 9001

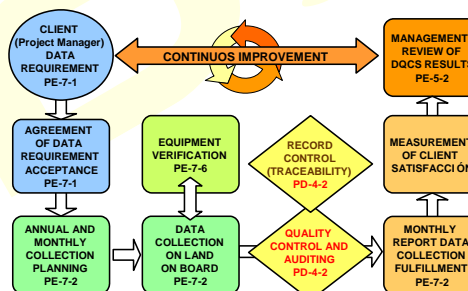
ACTIVITY	Year 2006	Year 2009
Time delay between data collection and input in main data base.	80 days delay	15 days delay
Report of data requirement fulfillment regarding quantity, opportunity and coverage.	No report	Monthly report
Report of data error	No report	Monthly report

METHODOLOGY

The Data Quality Management System (DQMS) was carried out between years 2006 and 2009 through the project "Information Management Model for the Regulation and Sustainability of National Fisheries" financed by the governmental Corporation for Production Promotion (Corporación de Fomento de la Producción, www.corfo.cl).

The implementation of the DQMS was carried out with scientists and technical personnel of IFOP, advised by an external organization accredited in front of the Chilean National Institute of Normalization to implement the quality management standard ISO 9001:2000.

PROCEDURES FOR DATA PLANNING AND CONTROL



9001
ISO 2000