

MADAGASCAR REPORT

MADAGASCAR – FISHERIES DATA MANAGEMENT

Total production statistics have various sources, particularly from logbook, from activities report, from evaluations and projections. It is 120 000 tons to 130 000 tons per year. Increase of Total production is due to the development of shrimps culture and traditional fishing. Statistics of the fishing product Exports is collected by the Administrative declaration (Certificate of healthiness and customs declaration). The exports of Fishing products and Fish farming have an important income of foreign currencies, and occupy important place in the constitution of the GDP: 2.3 - 3.0 percent. Consumption of Fishes products is evaluated every 10 years by sampling. Since the quantities of bovine meat became insufficient, Fish constitute an important source of animal protein of the population. A part of the capture of the traditional Fishing is auto consumed and does not appear in the official statistics (# 20 percent). Creation of Employments is evaluated by Census and Frame Survey. As there is no status of Traditional Fishermen, the Occasional Fishermen, as well as the informal Activities, are not taken into account during Frame survey.

Shrimps resource is the most study. Stock unit is identified and Biological parameter is allowed. The stock assessment is made currently from the model of Thompson and Bell. Shrimps fisheries survey is implemented with a Logbook system. Data archived systematically on the database called ‘‘BANACREM’’. Logbook is set up since 1993. Standardization of the Logbook was introduced in 1995. Database BANACREM (National Base on Statistics of Malagasy Shrimps Fishing) was operational since 1998, and managed by Fisheries Administration. Transmission procedures of the information and Seizure of the data are not well and some errors are introduced into the database.

Two complementary methods are implemented in the traditional fisheries: Frame Survey and Catch Assessment Survey. Frame survey is complete census or count of the main units (Fishermen, Boat, Fishing Gear,...) is essential for statistical collection from Traditional fisheries. The pattern of rotation of the frame survey would have 10 years the last census goes back to 1990. It is expected that this operation will be led this year (2007). In addition, Catch assessment survey is used by sampling in space and in time for data collection using ARTFISH software of the FAO. It is implemented in Toliara (South-West) in 1995, in Toamasina (East) in 1996 and in the other region in 2000. The system is not operational any more since 2003 for lack of budget.

The Malagasy State participates actively in the Indian Ocean Tuna Commission (IOTC) data collection activities. Routine survey for purse seine are conducted by Europeans Scientists Institute (IRD & IEO), in collaboration with USTA (Unité statistique thonière d’Antsiranana) in Madagascar. Data are entry and archived in AVDTH (Acquisition and Validation of Tunas Data application).

Knowledge on the total captures of tunas depends mainly on the declaration of the captain of the foreign vessel fishing in the Malagasy EEZ. The return of logbooks is not systematic and it constitutes only as administrative document.

For standardization needs of the statistical system at the regional level the following data are necessary: time series of catch and effort statistics by fishery and fleet, total catch in number and nominal weight by species and discard statistics. With those global data the following data is added to support stock assessment: fishing location; date and time fished; composition of the catch according to length, weight and sex; biological information like age, growth, recruitment, distribution, abundance and stock identity.

Fisheries Data Management (Power Point presentation)

OBJECTIVES OF DATA COLLECTION

- What are the Net Earnings of Foreign Exchange from Fisheries ?
- What are the Fishermen's Earning ?
- What do Fisheries Contribute to the Economy ?
- What do Fisheries Contribute to the national Food Supply ?
- What is the present State of the Resources ?

WHAT ?

Objectives 1, 2, 3, 4

	Fisheries				Aquaculture	
	Inland	Marine			Freshwater	Mariculture
	Small scale	Coastal		>EEZs	"Tilapias, Carps"	"Shrimps"
		Small scale	Industrial	"Tunas"		
Fisherman's Earning	X	X	X		X	X
Contribution to the Economy	X	X	X		X	X
Contribution to National Food Supply	XXX	XXX	X		XXX	
Net Earnings of Foreign Exchange			XXX	XXX		XXX

Total production data

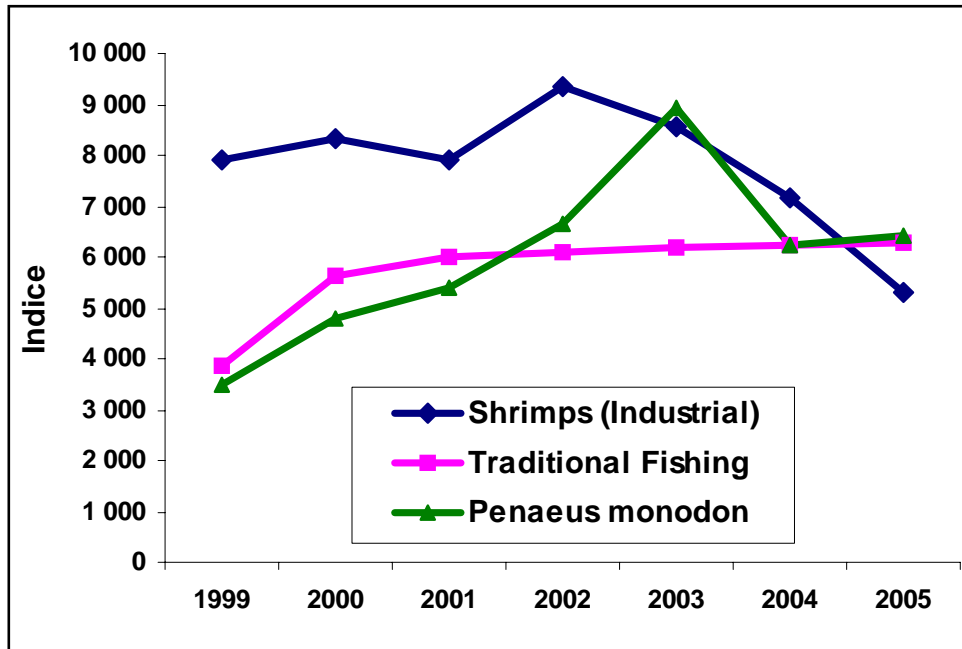
Total production Data

Logbook, Reports, Estimations, Projections, ...

			1999	2000	2001	2002	2003	2004	2005
Marine Production	Agreement of Fishing	Tuna	12 000	10 000	10 000	10 000	10 000	10 000	10 000
		Shrimps	7 888	8 303	7 889	9 328	8 545	7 155	5 312
	Industrial Fisheries	By-catch	2 586	4 268	4 517	3 050	3 105	4 089	3 273
		Deep shrimps			130	99		30	
		Deep Fish			2 127	2 200	2 270	2 300	2 350
	Artisanal Fisheries	Shrimps	480	412	437	490	726	580	572
		Fish	150	175	183	200	38	9	67
	Traditional Fisheries	Shrimps	2 139	3 412	3 450	3 450	3 450	3 450	3 450
		Crab	868	1 030	1 347	1 400	1 450	1 500	1 525
		Lobster	338	329	359	400	450	450	500
		See Cucumber	512	838	851	830	850	850	820
		Fish	55 000	55 000	55 000	55 000	55 000	55 000	55 000
		Other	4 117	4 100	4 500	4 500	5 500	5 500	5 500
		Alga	1 933	5 792	5 045	5 100	5 170	5 200	5 225
	Shrimps Culture	<i>Penaeus monodon</i>	3 486	4 800	5 389	6 628	8 920	6 243	6 404
Freshwater Production	Inland Fisheries	<i>Tilapia, Carpes, Macrobrachium, ...</i>	30 000	30 000	30 000	30 000	30 000	30 000	30 000
	in Ponds	<i>Tilapia, Carpes</i>	560	800	850	900	950	1 000	1 000
	in Rice Field	<i>Tilapia, Carpes</i>	1 000	1 500	1 500	1 500	1 500	1 550	1 600
Total Production			123 057	130 759	133 583	135 075	137 925	134 916	132 598

120 000 to 130 000tons/Year

Production trend



Increase of total production due to the development of shrimps culture and traditional fishing.

Evolution of exports

Evolution of the Exports

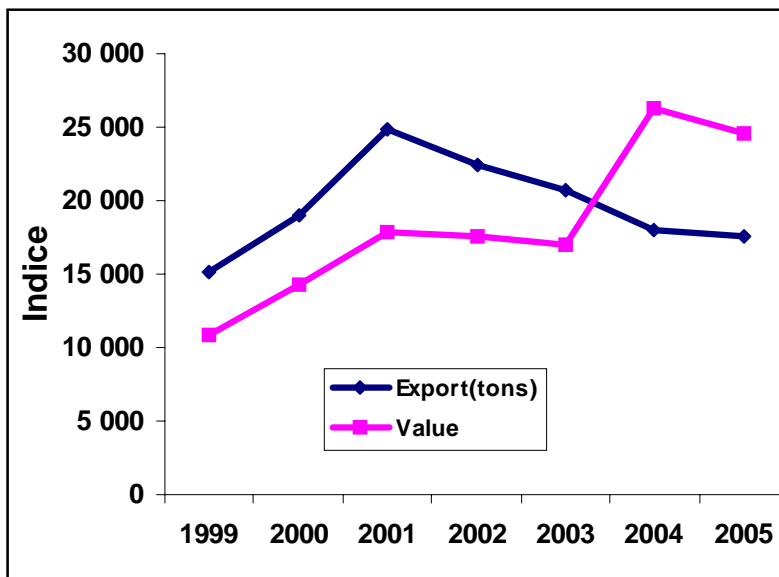
Administrative declaration (Certificate of healthiness, customs declaration)

	1999		2000		2001		2002		2003		2004		2005	
	t	Billions d'Ar	t	Billions d'Ar	t	Billions d'Ar	t	Billions d'Ar	t	Billions d'Ar	t	Billions d'Ar	t	Billions d'Ar
Shrimps (*)	12 250	99,3	12 666	125,2	15 274	155,5	15 139	156,8	15 256	155,1	13 651	231,7	11 716	187,7
Crab	261	0,7	578	1,3	522	1,4	488	1,5	492	1,6	852	4,3	1 228	8,0
Lobster	199	2,6	258	3,8	257	3,9	309	5,6	383	6,2	555	11,3	565	11,3
Sea cucumber	327	2,0	390	2,7	355	2,0	987	3,9	205	1,2	300	3,3	223	2,4
Cephalopod	757	1,0	1 114	2,0	1 093	2,2	1 753	3,7	999	2,5	1 668	6,4	1 606	13,6
Shark fin	10	0,3	14	0,1	15	0,4	20	0,2	18	0,2	43	0,8	58	2,5
Fishes	746	1,3	2 756	6,5	6 332	11,8	2 882	2,5	2 796	2,7	891	3,5	1 900	17,4
Ewers	0	0,0	6	0,1	7	0,1	6	0,1	12	0,4	8	0,6	7	0,0
Other product (**)	550	0,9	1 249	1,1	1 011	1,6	780	2,0	565	0,7	31	0,7	258	3,5
TOTAL	15 101	108,0	19 030	142,8	24 865	178,9	22 364	176,3	20 726	170,5	17 999	262,5	17 561	246,4

(*) Shrimps of Fishing and of Aquaculture
 (**) Tuna canned exclud

The exports of Fishing products and Fish farming are an important income of foreign currencies, and occupy important place in the constitution of the GDP : 2.3 % a 3.0 %

Export trend



Consumption of fish products

Consumption of Fishes products

Sampling

kg/Person/Year	1960/70	1980	1990	2000
Bovine meat	+	15,0	-	-
Fish	4,9	5,2	7,4	7,6

Since the quantities of bovine meat became insufficient, Fish constitute an important source of animal protein of the population.

A part of the capture of the traditional Fishing is autoconsumed and does not appear in the statistics (# 20%)

Employments

Employments

Census, Frame Survey

ACTIVITIES	1990	2000
Maritime Traditional Fishing	42 600	80 000
Inland Traditional Fishing	17 800	
Industrial Fishing	1 300	
Artisanal Fishing	450	
Global Direct Employment	62 150	
Commerce, Processing, ...	4 700	
Embarcation construction, Fishing gear confection, ...	1 500	
Administration, ...	500	
Global Indirect Employment	6 700	
TOTAL Fishing Activities	68 850	96 000
% Active population	(1,2%)	
Creation of employment (in 10years)		37 400

As there is no status of Traditional Fishermen, the Occasional Fishermen, as well as the informal Activities, are not taken into account during Census.