



A STUDY ON SOME ASPECTS OF FISHERY IN COSTAL MAHARASHTRA

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ABSTRACT

The present article explain the history of fisheries in Maharashtra & important of fisheries sector in the economy. The article explains the production of fish in the Maharashtra State during period of 2005-16, compare the production of marine fish with operating boats & export of fish production, and identify the factors influencing fish catching in this sector.

Key words: Fish production, Number of operating boats, Export of fish production

1. INTRODUCTION

Fishing & hunting are age old occupations which date back to pre-historic period. Egyptians were the first to start fish culture somewhere in 2500 B.C., followed by Chinese in 2000 B.C. Fish culture in tanks had its beginning in India since 350 B.C. Fishing and aquaculture of India has a long history for countries.

A separate Directorate to look after the aspects of Fisheries Development came into existence on 26.4.1945. Later on the Maharashtra State felt a need to elevate the status of Directorate by upgrading the post of Director to the rank of Commissioner with effect from 22.7.1993.

2.0 IMPORTANCE OF FISHERY

Fishing is the activity of catching fish. Techniques of catching fish include hand gathering, spearing, netting, angling. All countries have common objective of increasing fish production, improving the export earning & expanding employment opportunities in this sector. Fish consumption preferences vary across the country. Coastal communities have strong preferences for marine species. Fishing in India is a major industry in its coastal



States. Maharashtra is a major supplier of fish in the country. Fish as food both from fish farms & catch fisheries. Fishery is a kind of industry which is concerned with the catching, processing & selling of fish. Fishing is one of the oldest occupations of man. Fish also provides protein, rich food & is also big source of vitamin. Fish also forms an important part of diet of people living in the coastal area. Fishery plays an important role in the economy of India. Maharashtra is an important State provides employment to millions of people & contributes to food security of the country. Fisheries sector is rarely a strategic sector for national economic development, although it plays a prominent role in the country. Fisheries sector occupies a very important place in the socio economic development of the country. Economic importance of fish are e.g. fish as food, fish for controlling disease, scientific value, fish oil, artificial pearls, employment, source of Income etc.

3.0 GEOGRAPHICAL AREA

Maharashtra state is one of the major Marine fish production state in India. It has 720 Km. long coastal line spread all over the 7 maritime districts viz. Thane. Palghar, Mumbai city, Mumbai suburban, Raigad, Ratnagiri & Sindhudurg. The continental shelf area upto 40 fathoms i.e.55,529 sq.kms (50 % of the total continental shelf) is being exploited. There are 25 zones in the 7 districts & 173 fish landings centers in the state.

4.0 PERIOD OF DATA

This study covers the data pertaining to a period of year from 2006 to 2016.

5.0 MARGINAL RATE

Marginal rate is defined as addition to the total number as a result is last increase number in the total numbers. Algebraically, it is the total number by adding N units of the number instead of N-1

$$\text{i.e, } MR_n = TR_n - TR_{n-1}$$

Table 1: MARINE FISH PRODUCTION BY MECHANISED & NONO-MECHANISED BOATS IN MAHARASHTRA

Sr. No	Year	Production In Tone		Total
		Mech (%)	Non-Mech (%)	
1	2006-07	453681 (97.5)	10409 (2.5)	464090(100.0)
2	2007-08	414647(98.8)	5168(1.2)	419815(100.0)
3	2008-09	392198 (99.0)	3765 (1.0)	395963(100.0)
4	2009-10	410695 (98.8)	5072 (1.2)	415767(100.0)
5	2010-11	440393 (98.6)	6310 (1.4)	446703(100.0)
6	2011-12	428805 (98.9)	4879 (1.1)	433684(100.0)
7	2012-13	442278 (98.5)	6635 (1.5)	448913(100.0)
8	2013-14	463049 (99.1)	4409 (0.9)	467458(100.0)
9	2014-15	456817 (98.5)	6768 (1.5)	463585 (100.0)
10	2015-16	431730 (99.5)	2385 (0.5)	434115 (100.0)

Source: Fish production report 2015-16, department of fisheries. Government of Maharashtra, Mumbai.

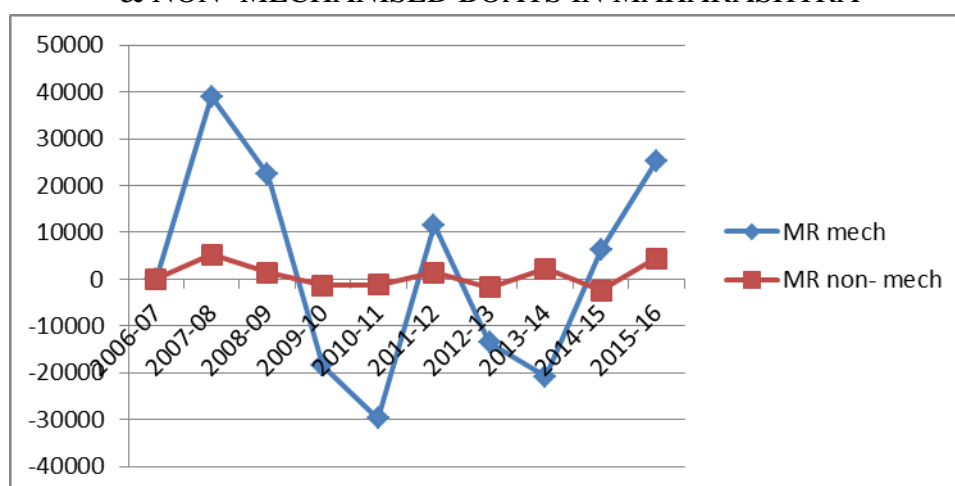
Table 1 describes the marine fish production mechanized & Non-mechanised boats in Maharashtra. 2015-16 Percentage of production is high (99.5%) compared to the other years. In 2006-07 percentage of production is extremely low (97.5%). In this same period of the year mechanized boats had extremely low production (0.5%) & non-mechanised had extremely large (2.5%) production. Percentage of production of mechanized boats as well as non-mechanised boats show a small variation. There is no big difference in the method of fish catching or production of during period 2006-2016.

Table 2 : MARGINAL RATE OF FISH PRODUCTION
MECHANISED & NON- MECHANISED BOATS IN MAHARASHTRA

Sr. No.	Year	MR mech	MR non- mech
1	2006-07	0	0
2	2007-08	39034	5241
3	2008-09	22449	1403
4	2009-10	-18497	-1307
5	2010-11	-29698	-1238
6	2011-12	11588	1431
7	2012-13	-13473	-1756
8	2013-14	-20771	2226
9	2014-15	6232	-2359
10	2015-16	25087	4383

Source: Fish production report 2015-16, department of fisheries. Government of Maharashtra, Mumbai.

Graph 1: MARGINAL RATE OF FISH PRODUCTION MECHANISED & NON- MECHANISED BOATS IN MAHARASHTRA



Source: Fish production report 2015-16, department of fisheries. Government of Maharashtra, Mumbai.

Graph 1 shows that marginal rate of marine fish production using mechanised boats is 2006-07. This year a highest production rate was observed and then after this production decreased up to the 2010-11 every year. Production had negative rate after the 2008-09, then after this production had positive increase in 2011-12. The similar trend is observed during 2011-12 to 2015-16. Compared to 2007-08 to 2010-11 negative production is less than in the 2013-14 and positive production is less 2007-08. Fish production with Non-mechanised boats does not large variation alike the fish production with mechanised boats.

TABLE 2 : TOTAL NUMBER OF MECHANISED &NON-MECHANISED OPERATING BOATS IN MAHARASHTRA

Sr. No	Year	Mechanised Boats	Non-Mechanised Boats	Total Boats
1	2006-07	11798	2032	13830
2	2007-08	11467	1938	13405
3	2008-09	11858	2079	13937
4	2009-10	11505	2202	13707
5	2010-11	12154	2292	14446
6	2011-12	12489	2365	14854
7	2012-13	12536	2547	15083

8	2013-14	12240	2623	14863
9	2014-15	12831	2855	15686
10	2015-16	13002	2714	15716

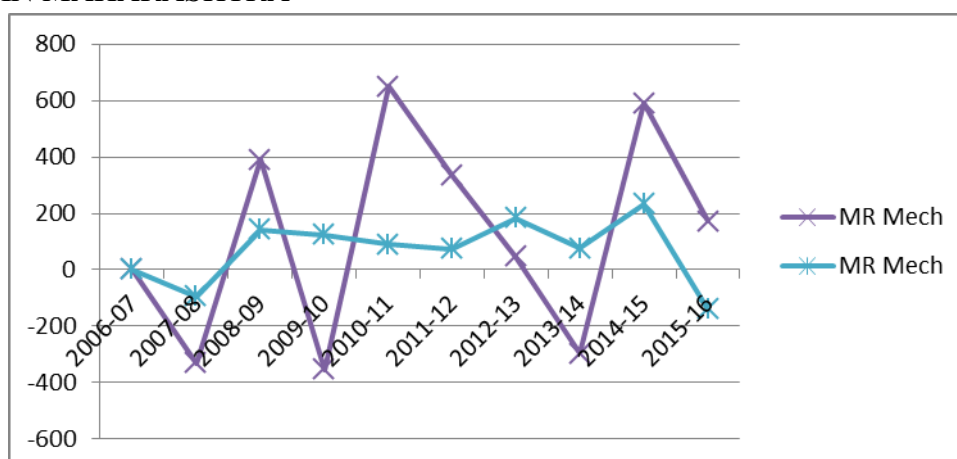
Source: Fish production report 2015-16, department of fisheries. Government of Maharashtra, Mumbai.

Table 2 : TOTAL NUMBER OF MECHANISED &NON-MECHANISED OPERATING BOATS IN MAHARASHTRA.

Sr. No	Year	Mechanised Boats	Non-Mechanised Boats	MR Mech. Boats	MR Mech. Boats
1	2006-07	11798	2032	0	0
2	2007-08	11467	1938	-331	-94
3	2008-09	11858	2079	391	141
4	2009-10	11505	2202	-353	123
5	2010-11	12154	2292	649	90
6	2011-12	12489	2365	335	73
7	2012-13	12536	2547	47	182
8	2013-14	12240	2623	-296	76
9	2014-15	12831	2855	591	232
10	2015-16	13002	2714	171	-141

Source: Fish production report 2015-16, department of fisheries. Government of Maharashtra, Mumbai.

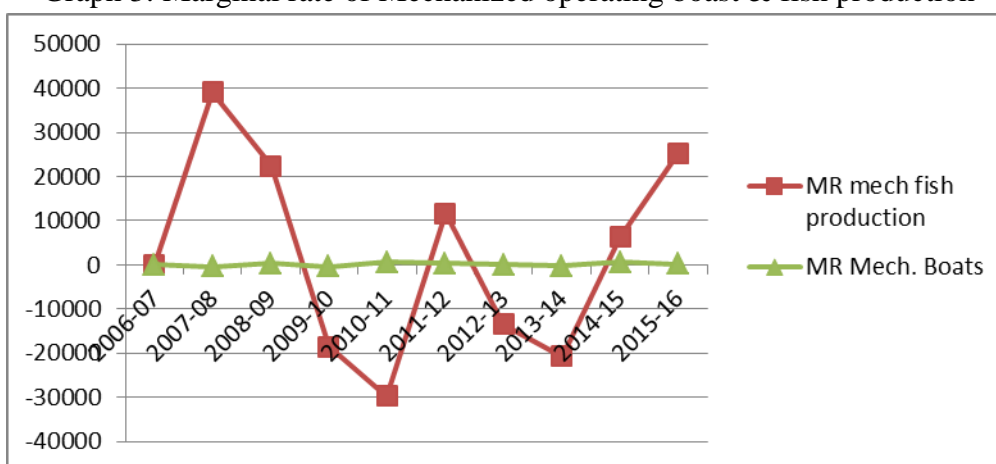
Graph 2 : MARGINAL RATE OF MECHANISED &NON-MECHANISED OPERATING BOATS IN MAHARASHTRA



Source: Fish production report 2015-16, department of fisheries. Government of Maharashtra, Mumbai.

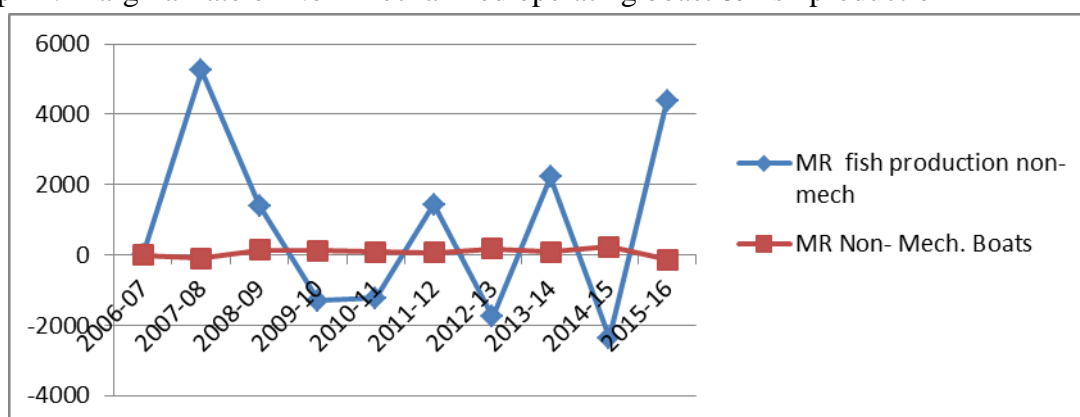
Graph 2 shows that in 2007-08 marginal rate of operating boats is negative. In later years it is positive with mechanised & non-mechanised boats. Mechanized boats increase than the non-mechanised boats, after the 2008-09 decreasing is negative upcoming two years 2010-11. After 2010-11 operating boats is positively increasing is highest rate in this data than after mechanized operating is decreasing in the following three years & again operating mechanized boats increasing than next year again decreasing this same time non-mechanized operating boats also decreasing in negative. Period of the 2008-09 to 2014-15 non-mechanized operating boats rates is positive but the fluctuation is very small.

Graph 3: Marginal rate of Mechanized operating boat & fish production



Source: Fish production report 2015-16, department of fisheries. Government of Maharashtra, Mumbai.

Graph 4: Marginal rate of Non-Mechanized operating boat & fish production



Source: Fish production report 2015-16, department of fisheries. Government of Maharashtra, Mumbai.

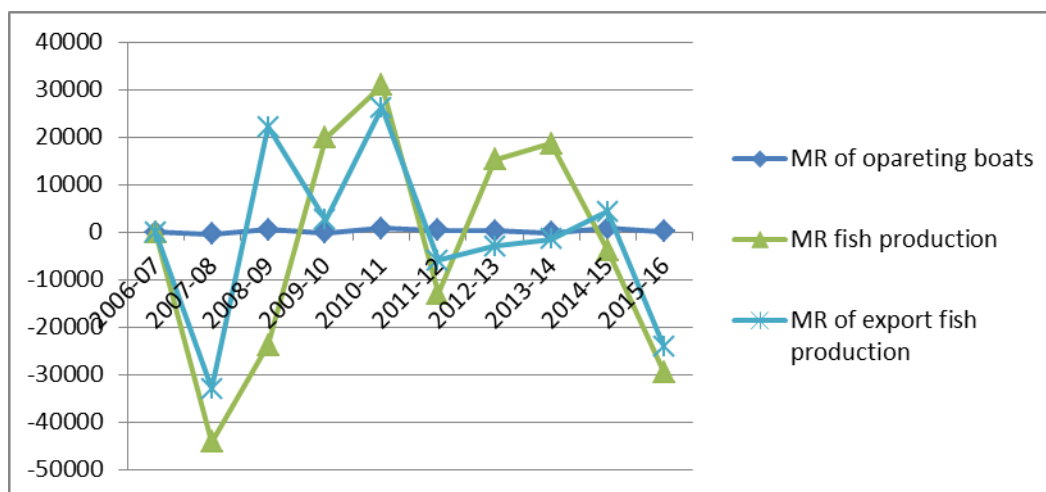
Graph 3 & 4 shows that the mechanized & non-mechanized fish production rate is highly fluctuating compared to the numbers of operating boats. This means that the production of fish is not dependent upon the number of operating boats in the Maharashtra.

Table no 4: MARGINAL RATE EXPORT FISH PRODUCTION

Sr. No.	Year	Export fish production	MR of operating boats	MR of export fish production
1	2006-07	140046	0	0
2	2007-08	107053	-425	-32993
3	2008-09	129172	532	22119
4	2009-10	131667	-230	2495
5	2010-11	157793	739	26126
6	2011-12	151865	408	-5928
7	2012-13	148887	229	-2978
8	2013-14	147411	-220	-1476
9	2014-15	151683	823	4272
10	2015-16	127629	30	-24054

Source: Fish production report 2015-16, department of fisheries. Government of Maharashtra, Mumbai.

GRAPH 5: MARGINAL RATE OF TOTAL NUMBERS OF OPERATING BOATS, FISH PRODUCTION & EXPORT OF FISH PRODUCTION.



Source: Fish production report 2015-16, department of fisheries. Government of Maharashtra, Mumbai.

Graph 5 shows that the Marginal rate of exports of fish is minute related to fish production. It is not having any relation with the number of operating boats in Maharashtra.



6.0 CONCLUSION

Fishery plays an important role in the economy of India. Maharashtra is an important State provides employment to millions of people & contributes to food security of the country as well as foreign earning. Government has restricted to the operating boats to the production & catching fish, but production & export of fish does not depend on the number of operating boats. It depends only on natural circumstances.

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