

Trend Analysis of Fish Production in Kerala

Dr. Jomon Mathew & Dr. Joby Verghese
Assistant Professor of Economics
University College
Thiruvananthapuram,

Dr. Joby Verghese
Assistant Professor and Research Guide,
Research Department of Political Science,
Maharaja's College Ernakulam Kerala.

Abstract

Until early sixties, the fishery economy of Kerala was largely influenced by forces of internal demand mainly from the rural and nearby urban markets. This was mainly due to the non-availability of a reliable modern processing technology. The Blue Revolution technologies have revolutionised these relationships and started influencing internal relations in many significant ways.

Introduction

The fishing industry occupies an influential and unique place in Kerala economy. Kerala state, blessed with long coastline of around 590 kms is one of the most productive areas as far as fishing is concerned. Fisheries sector contribute nearly 3 percent of the economy of the State. It can be seen that the current level of annual marine fish production is about 6 lakhs tones/ year. More than a million people belonging to the fishing communities live in 222 fishing villages in the marine sector in the State. About two lakh people depend on ancillary professions like processing of prawn and fish and marketing of fish for a living in Kerala. The general living condition and economic status of the fisher folk in the State is considered not on a par with the living standards of the general population of the State. The fishery economy of Kerala had been traditionally conceptualised as a network of relationships in the realms of production, consumption and exchange (Kurien 1974). Traditional method of fishing practices is followed in the state for long. Production and exchange relations in this rudimentary economy are influenced by the growth in both internal and external consumption.

Until early sixties, the fishery economy of Kerala was largely influenced by forces of internal demand mainly from the rural and nearby urban markets. This was mainly due to the non-availability of a reliable modern processing technology. The Blue Revolution technologies have revolutionised these relationships and started influencing internal relations in many significant ways. Ever since, the external relations became crucial for the domestic producers, traders and consumers. The opening up of village economies to the world markets has significant influence on the fishery sector too. The sector is now exploiting maximum benefits from the globalisation trends.

The total number of population engaged in fishery related activities in Kerala is estimated to be 11.10 lakh. This includes 8.55 lakh in the marine sector and 2.55 lakh in the inland sector. Out of this, the number of active fishermen is 2.28 lakh - 1.90 lakh in marine sector and 0.42 in the inland sector. (As per the population census 2011, the fisher folk population in Kerala is 10.02 lakh covering 7.71 lakh in coastal area and 2.31 lakh in inland sector). It is additionally calculable that regarding 74100 folks area unit engaged in work – allied activities. Among the districts, Alappuzha is estimated to have maximum number of fisher men population in the state. The total fishermen population in Alappuzha district is 1.68 lakh followed by Thiruvananthapuram (1.65 lakh) and Ernakulam (1.33 lakh).

There are 222 fishing villages within the marine and 113 fisheries villages in the inland sector, wherever fishing and connected aspects offer sustenance to a massive majority of the population. Out of the two types of fishermen, the marine and the inland, the concentration of marine fishermen is more in Trivandrum district, followed by Allapuzha, and then by Kollam and Kozhikode districts, while the inland fishermen are concentrated in Ernakulum, Allapuzha and Kollam districts respectively (Department of Fisheries, 2005). Nearly 12% of the fisher folk depend upon allied activities like marketing/ repairing nets, fish vending, processing and other fishery related activities, for their livelihoods. The state's fisheries sector could be a large one, comprising of 19,173 crafts out of which 7% are mechanised, 44% motorised and the remaining 49% are non-motorised crafts. Although the fish catch from Kerala coast includes over three hundred completely different species, the commercially important number are about forty and the prominent ones, amongst these are seer fish, pomfret and prawn.

The density of population is extremely high right along the outline as compared to the midlands and therefore the highlands (Asia Development Bank, 2003). A very wealthy marine wealth with an outsized sort of fish and a extremely skilful population of fishermen have created Kerala a number one producer and client of fish (Aerthayil, 2000). The high rainfall and a large number of rivers makes the Kerala coast especially fertile for fish. One speciality of the Kerala coast is that the mudbanks, known in Malayalam as chakara. It is the formation of clay and organic matters on the coast that happens when monsoon with the ocean remaining calm, therefore leading to sensible harvest of fish. Fish is a source of livelihood and of rich protein for the fish workers as well as the people of Kerala and fishing plays an important part in the economy of the state (Kurien 2001)

Fish landings

India has been a significant contributor to the globe marine fish production and second largest producer of upcountry fish. The south west comprising Kerala, Karnataka and Goa were the top contributors among regions. Presently fisheries and cultivation contribute zero.78 per cent to the national gross domestic product and four.47 per cent to agriculture and allied activities. Fisheries sector contributes considerably to the financial system where as providing sustenance to around 14.49 million

people in the country. It has been recognized as a robust financial gain and employment generator because it stimulates growth of variety of subsidiary industries and could be a supply of low-cost and alimetal food besides being a supply of interchange wage earner. Fishery being one in all the promising sectors of agriculture and allied activities in Asian nation.

Marine fish landings of India during the year 2012 has provisionally been estimated as 3.32 million tones with a decrease of about 0.05 million tonnes compared to the estimate for the last year. Among the states Gujarat was the highest contributor of Marine fish production followed by Kerala. In total fish production Andhra Pradesh was the highest contributor and Kerala stands 4th position. During 2012-13, 5.31 lakh tonnes of marine fish were landed in Kerala showing a decline of 0.22 lakh tonnes (4.14 per cent) over the previous year. The high value species among the fish catches are still few, prominent among them are Seer fish, Prawn, Ribbon fish and Mackerel. The quality of these high value species in the total catch ultimately decides the income of the fishermen

Species -wise Composition of Fish Landing

The economic zone in Kerala is the sea which is spread upto 200 meters and is adjacent to the coastline. According to the Kerala Marine Fisheries Regulation Act, the sea shore area within the range of 50 meters is demarcated for fishing by the traditional fishermen. Whereas the area beyond the limit in the economic zones can be used by motorized boats and large vessels. But people do not usually follow this rule. Hence, to prevent this, monsoon trawling began to be banned from 1980 onwards. We acquire around three hundred completely different species of fishes from the Kerala coast. Out of which only around 40 are of commercial use.

Trend of Fish Production in Kerala

The trend of fish production in Kerala since has been given in this section. Detailed analysis of marine fish production, inland fish production and the total fish production has been done.

Estimates of the fisheries resources assessment shows that among the maritime states in India, Kerala occupies the second position in marine fish production. At national level more than 60 per cent of the total fish production is contributed by the inland sector. Recently the Government have approved a master plan for increasing the inland fish production of the state from the current level of 75000 tonnes to 2 lakh tonnes over a period of 10 years. The current level of Inland fish production is to the quantum of about 1.88 lakh tones. The inland fish production shows a continuous growth for about a decade, though the data for the last two years are not in confined to the common trend which is observed not to be a firm turn the pattern.

The marine fish production was 6.78 lakh tonnes in 1990-1991, 5.67 in 2000-2001, 5.60 in 2010-2011 and 4.8 in 2016-2017. The trend shows that it is unpredictable whether the marine production goes increasing or decreasing. Inland production sustained on increasing trend. The inland fish production was 0.36 lakh tonnes in 1990-91, 0.85 in 2000-01, 1.21 in 2010-11 and 1.88 in 2016-17. The movement is showing a tremendous increase unlike in the case of marine production. Inland production sustained on increasing trend. During 2012-13, the share of inland fish production to the total fish production of the state was 22 per cent. The inland production too is estimated to be 2.1 lakh tonnes during 2015-16. The total fish production including both marine and inland has been estimated to be 6.76 lakh tonnes during the year 2016-17.

Table 1:
Fish Production in Kerala (in Lakh tones)

Year	Marine	Inland	Total	Percentage Variation
1989-90	6.46	.33	7.79	.93
1990-91	6.78	.36	7.14	-8.4
1991-92	5.40	.40	5.80	-18.2
1992-93	5.53	.42	5.95	2.5
1993-94	5.59	.45	6.04	1.5
1994-95	5.49	0.48	5.97	-1.2
1995-96	5.53	0.50	6.03	1
1996-97	6.61	0.52	7.13	18.2
1997-98	5.11	0.58	5.69	-20.3
1998-99	5.82	0.66	6.48	13.8
1999-00	5.94	0.74	6.68	3.1
2000-01	5.67	0.85	6.52	-2.4
2001-02	5.94	0.78	6.72	3
2002-03	6.03	0.75	6.78	0.8
2003-04	6.09	0.76	6.85	1
2004-05	6.02	0.76	6.78	-1.3
2005-06	5.59	0.78	6.37	-6.1
2006-07	5.98	0.80	6.78	6.4
2007-08	5.86	0.91	6.77	-0.1
2008-09	5.83	1.03	6.86	1.3
2000-10	5.70	1.17	6.87	0.1
2010-11	5.60	1.21	6.81	-0.8
2011-12	5.53	1.4	6.93	1.7
2012-13	5.31	1.4	6.8	-1.8
2013-14	5.22	1.86	7.08	4.1
2014-15	5.24	2.02	7.26	2.5
2015-16	5.17	2.1	7.27	0.13
2016-17	4.8	1.88	6.76	-7.1

Source: Economic Review, Kerala State planning Board, Various issues

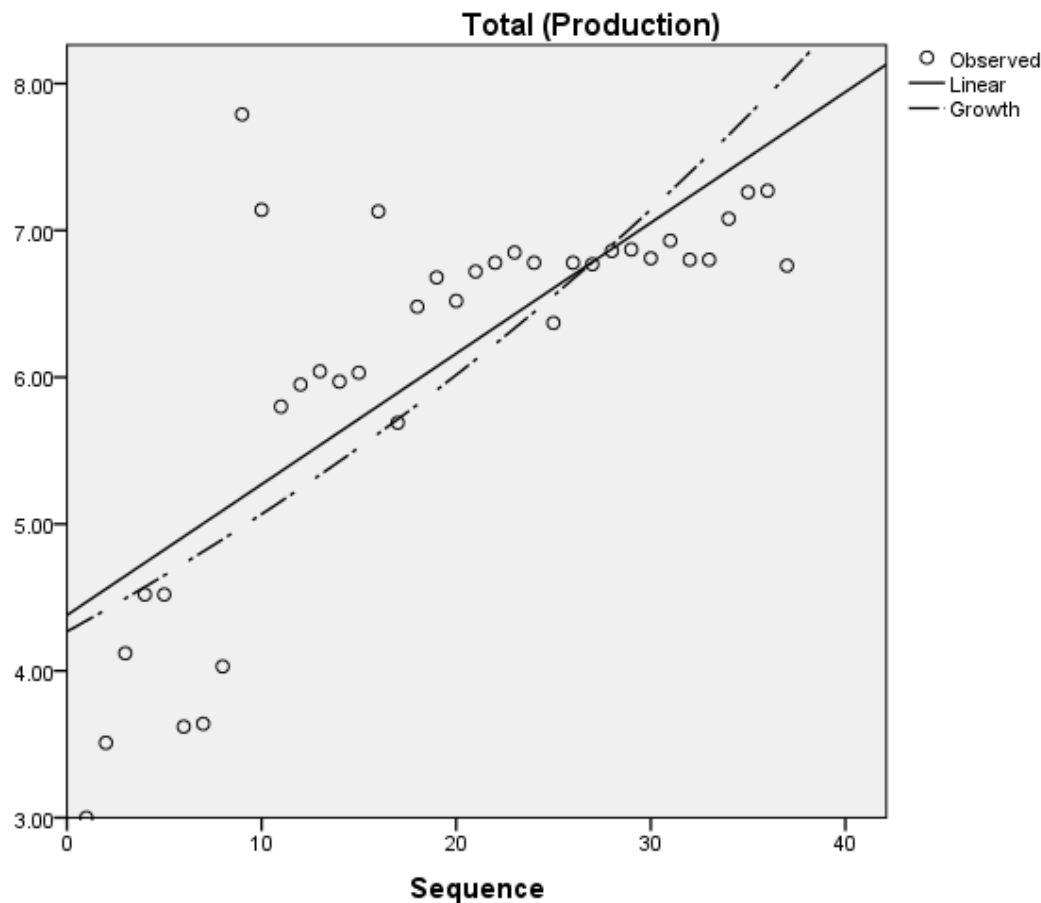
India is the second largest fish producing nation in the world, with a share of 5.4 per cent of global fish production. India is also a major producer of Fish through aquaculture and ranks second in the world after China (Kerala Economic Review, 2016). Since 1981 the total fish production in Kerala has experienced a steep increase during 1989-90 periods. In 1989, 7.79 lakh tones fish were produced and it was the highest ever quantity produced from Kerala. In 1981 the production of the total fish was 3 lakh tone in which the major share contributed by marine sector. Since 1981 a sustained increase has experienced in the production of fish both from marine and inland till 1986. from very beginning to the end the highest contribution to the total production of fish was done by marine sector. But it is interesting to note that since 2003 the contribution of marine sector to the total production is showing a sustained decrease where as in inland sector shows a sustained since 1981 with an exception in 2002

Figure 1
Total Production

Model Summary and Parameter Estimates

Dependent Variable: Total

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	.578	47.853	1	35	.000	4.380	.089
Growth	.566	45.682	1	35	.000	1.451	.017



The longitudinal analysis of marine production shows that it has experienced a slow growth with lot of bumps and downs. The linear line is flattened with a slope of .49. the observed values are scattered around linear line with few outliers on both negative and positive directions. Marine production has experienced an aggregate .012 times growth over the period of time. Thus the trend and growth line depict a positive slow pace change in marine fish production. The longitudinal analysis of inland fish production shows sustained increase eventhough the quantom of change is small. The observed values are distributed around the trend and growth line. It shows a sustained growth of inland fish production with a measure of .060 times. There are no outliers, means inland fish production is not subject to cyclical or abnormal changes as we seen in marine fish production. The total fish production consists of both inland and marine spanning from 1981 to 2016 , realised a positive growth with some fluctions in the begnning and mid-periods of analysis. The observed values are showing a positive linear association with time. But the trend is as much not smooth as in inland fish production. total fish production realised aggregate .017 times growth, in a slow pace during the period of time.

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