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STUDY OF ANALYSIS OF FISHERIES STATISTICS IN INDIA

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ABSTRACT

Fish production in India has increased more than tenfold since its independence in 1947. According to the Food and Agriculture Organization (FAO) of the United Nations. (2011), fish output in India doubled between 1990 and 2010. As per Central Institute of Fisheries Technology, India. (2008), India is a major supply of fish in the world. In 2006 the country exported over 600,000 metric tons of fish, to some 90 countries, earning over US S 1.8 billion. Fish production in India has increased more than tenfold since its independence in 1947. According to the Food and Agriculture Organization (FAO) of the United Nations. (2011), fish output in India doubled between 1990 and 2010. As per Central Institute of Fisheries Technology, India. (2008), India is a major supply of fish in the world. In 2006 the country exported over 600,000 metric tons of fish, to some 90 countries, earning over US S 1.8 billion. Fish culture received notable attention in Tamil Nadu as early as 1911, subsequently, states such as West Bengal, Punjab, Uttar Pradesh, Gujarat, Karnataka and Andhra Pradesh initiated fish culture through the establishment of Fisheries Departments. In 2006, Indian central government initiated a dedicated organization focused on fisheries, under its Ministry of Agriculture.There are six billion people on the planet and at least another two billion are expected before the world population stabilizes by the middle of the 21st century. Most of this increase will occur in the developing countries of Asia, Africa and Latin America. Humans use living aquatic organisms for' food, recreation, medicine and many other useable. Overexploitation of natural resources has disturbed harmonious balance between man and nature. Fisheries play an important role in the economy of India in generating employment, augmenting food supply, raising nutritional levels and earning foreign exchange. Therefore, now there is an urgent need of analyses based on appropriate technologies to meet the increasing demand of economically important fishes, which are in demand, to generate more protein-rich food and to ease pressure on conventional food

KEYWORDS : Fish, FAO, Overexploitation

Fishing in India is a major industry in its coastal states, employing over 14 million people. Fish production in India has increased more than tenfold since its independence in 1947. According to the Food and Agriculture Organization (FAO) of the United Nations. (2011), fish output in India doubled between 1990 and 2010.

According to Food and Agriculture Organization (FAO) of the United Nations. (1997), India has 8,118 kilometers of marine coastline, 3,827 fishing villages, and 1,914 traditional fish landing centers. India's fresh water resources consist of 195,210 kilometers of rivers and canals, 2.9 million hectares of minor and major reservoirs, 2.4 million hectares of ponds and lakes, and about 0.8 million hectares of flood plain wetlands and water bodies. As of 2010, the marine and freshwater resources offered a combined sustainable catch fishing potential of over 4 million metric tons of fish. In addition, India's water and natural resources offer a tenfold growth potential in aquaculture from 2010 harvest levels of 3.9 million metric tons of fish, if India were to adopt fishing knowledge, regulatory reforms, and sustainability policies adopted by China over the last two decades. The marine fish harvested in India consist of about 65 commercially important species/groups. Pelagic and mid water species contributed about 52% of the total marine fish in 2004.

As per Central Institute of Fisheries Technology, India. (2008), India is a major supply of fish in the world. In 2006 the country exported over 600,000 metric tons of fish, to some 90 countries, earning over US S 1.8 billion. According to Food and Agriculture Organization (FAO) of the United Nations. (2010), marine and freshwater catch fishing combined with aquaculture fish farming is a rapidly growing industry in India. In 2008 India was the sixth largest producer of marine and freshwater capture fisheries, and the second largest aquaculture farmed fish producer in the world. As of 2010, fish harvest distribution was difficult within India because of poor rural road infrastructure, lack of cold storage and absence of organized retail in most parts of the country.

Introduction and History

Fishing and aquaculture in India has a long history. Kautilya's Arthashastra (321-300 B.C.) AND King Someswara's Manasottara (1127 A.D.) each refer to fish culture. India has a traditional practice of fish culture in small ponds in Eastern India. Significant advances in productivity were made in the state of West Bengal in the early nineteenth century with the controlled breeding of

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carp in Bundhs (tanks where river conditions are simulated). Fish culture received notable attention in Tamil Nadu as early as 1911, subsequently, states such as West Bengal, Punjab, Uttar Pradesh, Gujarat, Karnataka and Andhra Pradesh initiated fish culture through the establishment of Fisheries Departments. In 2006, Indian central government initiated a dedicated organization focused on fisheries, under its Ministry of Agriculture.

There are six billion people on the planet and at least another two billion are expected before the world population stabilizes by the middle of the 21st century. Most of this increase will occur in the developing countries of Asia, Africa and Latin America (Khush, 2001). In the history of human development, it has never been apparent that human activeness is having a tremendous and potentially irreversible impact on the planet. The rapid pace of technological development and the increase in human population during the last century have placed great pressure on natural resources (Wang, 1999). In many cases, humans have caused irreversible damage to the natural state of the planet without fully understanding the consequences of their actions. There ~as been an increasing escalation of human activities that is bringing changes to aquatic environments. In the coming years, humankind is likely to improve dramatically its understanding of the intricacies of aquatic ecosystems, and this will lead not only to more knowledge but also, and perhaps paradoxically, to growing uncertainties. As a result, there will be growing pressure for a strict application of precautionary approach to all interventions, including those by fishers in aquatic ecosystem.

`According to FAO statistical reports (1997) and Mires (1999) world fisheries may not be adequate to meet future demands. By 2010, the demand for fish is expected to reach 140-150 million tons as opposed to 80 million tons in 1995. Many nations are promoting fish products for better nutrition and food security. Analysis of the dynamics of the global fisheries demonstrated rapid increase in fishing pressure on the major 200 marine fish resources, which are still an economically and financially viable undertaking. Considering the average annual growth rate of about 14% in the last five years, in globe aquaculture production, it is expected that the sector would play a major role in meeting the protein hunger of the ever growing human population and also contribute greatly to the economy of the major aquaculture producing countries of the globe. Despite fluctuations in supply and demand, caused by the changing state of fisheries resources, the economic climate and environmental conditions, fisheries and aquaculture remain very important as source of food, employment and revenue in many countries and communities. It also seems plausible that an increasing number of developing countries will develop national food security strategies and that fish will occupy a place in these strategies.

Currently, we are at the, dawn of 21st century and India's population has already crossed 1 billion marks and is growing at the rate of 1.7% per annum (Paroda, 2001; Khush, 2001). This rapid population expansion coupled with industrialization and urbanization are putting heavy pressure on our food production system posing grave dangers in ensuring food security and social well-beings. Food security for such exploding population needs immediate attention on the earth's ecosystem. Rising incomes have already increased the intake of milk, vegetables, eggs, meat and fish, in spite of tremendous technological advancement achieved in various land based farming systems, major section of population is still suffering from malnutrition. Health education coupled with nutritional awareness is continually laying a great emphasis on protein-rich balanced diets and thus bringing about increased utilization of fish in the daily diet of people both within and outside the country.

Humans use living aquatic organisms for' food, recreation, medicine and many other useable. Overexploitation of natural resources has disturbed harmonious balance between man and nature. Fisheries play an important role in the economy of India in generating employment, augmenting food supply, raising nutritional levels and earning foreign exchange Maske (1996); Wang (1999); Khan (1999); Upare and Mayadevi (2001). It has been recognized as a powerful income and employment generator as it stimulates growth of a number of subsidiary industries. In the years to come, higher economic growth as well as sizable population growth will further increase the demand for fish. Also due to accentuating modernity, religion will hardly be able to retain restrictions on fish

eating habits of the people, which will also result in higher demand of fish especially on the coastal belts of states. The evolving scenarios will change demand prospects for fish in the next decades.

More changes in the external circumstances affecting assessment can be expected in the corning years than occurred in the last 50 years. It is likely that there will be an increased disparity if) the distribution of wealth both within and between countries. The economically affluent groups will create a strong market demand for sea food products and for marine environmental use. The less advantaged groups will variously make demands for subsistence food involving resource mining for short term advantage, illegal fishing and use of black markets. The two groups will compete strongly for fish and environmental use. The increased economic power of the affluent groups, combined with increased desperation among the less affluent, will greatly increase the difficulty of implementing management measures for some national and most internationally shared marine living resources (Mires, 1999).

In developing countries, it is estimated that 27 million fishers are dependent for all or part of their livelihoods on coastal fisheries; together with their dependents, this amount to some 135 to 150 million people. India is also not the exception to this. Around seven million people of India are engaged in fisheries and ancillary activities for their livelihood. India's fish, production has multiplied many folds during the last few decades and contributes to about 6-7% of world production in recent years. India ranks fourth globally in the total fish production and second to China in the inland fish production. However, the growth in marine fish production over the recent years has been rather slow (2.2% per annum) as compared to the inland fisheries (6.5% per annum) (Anon, 1989). Gujarat has emerged as the leading producer of marine fish during 1999-2000 followed by Kerala, Maharashtra and Tamil Nadu. Marine sector plays a vital role in India's economy and provides employment and income to nearly two million people. During the last decade (1990s) the marine fish production has reached a plateau. Most of the commercially important resources are showing signs of approaching saturation levels due to over exploitation, but still demand for seafood has been growing. Traditional boats are being increasingly motorized and the mechanized sector operating with trawlers and gill-netters are restring to multi-day fishing, thus contributing to increased fishing ·pressure. This will affect sustainable development of marine fisheries. Hence, the current level of marine fish production from the exploited zones has to be sustained by closely monitoring the landings and the fishing efforts on a regional and all India bases and by strictly implementing the scientific management measures.

In the export front also, India is one of world's largest exporters of seafood with its annual exports exceeding US S 1.2 billion. The seafood industry is the biggest net foreign exchange earner among commodities which have no import inputs and it accounts for nearly 8% of the net, foreign exchange earning of the country. While the quantity of exported Indian marine products from 1961 to 2002 increased approximately by 28 times, the value of exports from the country increased by 1644 times during the same period. The share of South East Asian countries and other countries in the quantity and value of marine products exported from India was 49.12% and 23.23% respectively during 2001-02. This could be attributed due to the low value finfish items like Ribbon-fish, Reef cod, Croakers and Snappers exported to these countries. High quality of marine products in overseas markets has also shown improved performance. Keeping in view the global demand for Indian sea food and its contributions to the economy, quality and quantity of the imported fish should be rigorously assessed as per international standard (Annual Report 2008-2009, Anon, 1994-2002).

Therefore, now there is an urgent need of analyses based on appropriate technologies to meet the increasing demand of economically important fishes, which are in demand, to generate more protein-rich food and to ease pressure on conventional food (Srinath, 2003).

Health Benefits

Research over the past few decades has shown that Fish provides a good source of high quality protein and contains many vitamins and minerals.

Distribution of Fish Industry in Indian States

As per Ministry of Agriculture, Government of India. (2009), fishing is a diverse industry in India. The

Table 1 : Leading Fish Producing States in India, 2007-2008

Rank	State	Total Production (Metrictons)
1.	West Bengal	1,447,260
2.	Andhra Pradesh	1,010,830
3.	Gujarat	721,910
4.	Kerala	667,330
5.	Tamil Nadu	559,360
6.	Maharashtra	556,450
7.	Orissa	349,480
8.	Uttar Pradesh	325,950
9.	Bihar	319,10 0
10.	Karnataka	297,690

table,1 below presents the top ten fish harvesting states in India, for the 2007-2008 agriculture year.

According to Food and Agriculture Organization (FAO) of the United Nations. (2009), between 2000 and 2010, the freshwater prawn farming in India has grown rapidly. The state of Andhra Pradesh dominates the sector with over 86 % of the total production in India with approximately 60 % of the total water area dedicated to prawn farming, followed by West Bengal. Mixed farming of freshwater prawn along with carp is also very much accepted as a technologically sound culture practice and a viable option for enhancing farm income. Thirty five freshwater prawn hatcheries, at present production about 200 million seed per annum, cater for the requirement of the country.

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