



## ANALYSIS OF PRICE INFLATION OF EXPORTED CRAB AND CRAB PRODUCTS BY INDIA USING LASPEYRES PRICE INDEX

DEVDATTA LAD<sup>1\*</sup>

<sup>1</sup>Department of Zoology, Wilson College, Chowpatty, Mumbai - 400 007, India.

### AUTHOR'S CONTRIBUTION

The sole author designed, analysed, interpreted and prepared the manuscript.

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### ABSTRACT

Crab is rich in protein and hence one of the finest dietary protein source. The crab protein is of high quality. The crab protein is easily digestible by people belonging to all ages. Crab meat is rich in vitamins, minerals and Omega – 3 polyunsaturated acids, it is low in fat content. Selenium is also in high amount in crab meat. Selenium plays a key role in the human's antioxidant defence system, preventing damage to cells and tissues. Selenium also plays an important role in the function of the immune system, in thyroid hormone metabolism and synthesis in reproduction. Crab meat contains nearly 30 times the copper found in cod and 56 times that found in salmon and chicken. India is one of the leading exporters of crab and crab products. The crab and crab products export of India is increasing year after year also the export value is also increasing. But some of the Asian countries such as Bangladesh and Sri Lanka are giving a good competition to India in export of crab and crab products export. This research work mainly aims to determine the price inflation of exported crab and crab products by India using laspeyres price index. The laspeyres price index for the year 2006 and 2016 was 252.10 and 302.52 respectively. The findings of the present research exhibits that the percentage inflation in export prices of Indian Crab and Crab products from 1996 to 2006 was 152.10%, while the percentage inflation rate has increased from 2006 to 2016 by 50.42%. There is inflation in export prices of Indian Crab and Crab products every decades but it is tremendous in the decade of 1996 to 2006 as compared to that of the decade 2006 to 2016. The reason behind the decline of prices in the last decade being that now many Asia countries like Sri Lanka, Bangladesh etc., have entered into the market of crab and crab product export. Due to which Indian crab and crab products have many competitors. Some constructive measures need to be taken in respect to increase the price and demand of commercially important Indian Crab and Crab products in the international Market.

**Keywords:** Laspeyres price index; crab and crab products; inflation.

### 1. INTRODUCTION

Crab belongs to the group of shellfish called crustaceans. They are identified by their hard shells, 5 pairs of legs, making them decapods. It has been reported that crabs and other crustaceans account for about 1/5<sup>th</sup> or 20% of all the foods that are obtained

from the seas, rivers, lakes and other aquatic source [1].

Crab is rich in protein and hence one of the finest dietary protein source. It contains almost as much protein per 100 grammes as meats without anywhere near the same levels of saturated fat, which is linked

\*Corresponding author: Email: devdatta.lad@gmail.com;

to an increased risk of heart disease. The crab protein is of high quality. The crab protein is easily digestible by people belonging to all ages. Crab meat is rich in vitamins, minerals and Omega – 3 polyunsaturated acids, it is low in fat content. It helps provide protection from heart disease and aids brain development. Some research suggests that Omega-3 also inhibits aggressive behaviour. Selenium is also in high amount in crab meat. Selenium plays a key role in the human's antioxidant defence system, preventing damage to cells and tissues. Selenium also plays an important role in the function of the immune system, in thyroid hormone metabolism and synthesis in reproduction. As vitamins are water soluble, and therefore not stored in the body, they have to be obtained through our diet, such as through crab meat. Crab meat contains Riboflavin (Vitamin B2). It is important in the production of steroids and red blood cells, the promotion of normal growth, and the maintenance of the skin, eyes and the nervous system. Riboflavin also plays a role in iron absorption in the digestive tract and supports the activity of antioxidants. Crab meat contains nearly 30 times the copper found in cod and 56 times that found in salmon and chicken [2,3].

India is one of the leading exporters of crab and crab products. The crab and crab products export of India is increasing year after year also the export value is also increasing. But some of the Asian countries such as Bangladesh and Sri Lanka are giving a good

competition to India in export of crab and crab products export. This research work mainly aims to determine the price inflation of exported crab and crab products by India using laspeyres price index.

## 2. MATERIALS AND METHODS

The following data is being obtained from the Reference [4].

The Laspeyres price index formula is as follows:

$$I = \frac{\sum P_n Q_o}{\sum P_o Q_o} \times 100$$

P = Price of the Commodity, Q = Quantity of the Commodity, o = Base year and n = Current year under study [5].

The above depicted formula is being implemented on the data obtained from the reference.

## 3. RESULTS

The Laspeyres price index formula was implemented on the data that was obtained from references. The year 1996 was taken as base year and the price increment was calculated for the later couple of decades. In Tables 2-4 indicate the calculation and analysis.

**Table 1. Exported crab and crab products price in rupees/kg in different years**

Products name	Crab and crab products					
	1996		2006		2016	
	Quantity in Kg	Price in rupees	Quantity in Kg	Price in rupees	Quantity in Kg	Price in rupees
Crab and Crab products	1	119	1	300	1	360

**Table 2. Laspeyres price index for the year 1996 – 2006**

Products name	1996		2006		$P_n Q_o$	$P_o Q_o$
	$Q_o$	$P_o$	$Q_n$	$P_n$		
Crab and Crab products	1	119	1	300	300	119
Total					300	119

*For the year 1996 – 2006 the  $I_L = 252.10$*

**Table 3. Laspeyres price index for the year 1996 – 2016**

Products name	1996		2016		$P_n Q_o$	$P_o Q_o$
	$Q_o$	$P_o$	$Q_n$	$P_n$		
Crab and Crab products	1	119	1	360	360	119
Total					360	119

*For the year 1996 – 2016 the  $I_L = 302.52$*

**Table 4. Percentage of price inflation over the years**

Years	Laspeyres price index	Percentage of price inflation rate from the base year	Prices of Crab and Crab products have increased from 2006 to 2016 by 50.42.
1996 (Base Year)	100	-----	
2006	252.10	152.10	
2016	302.52	202.52	

#### 4. DISCUSSION AND CONCLUSION

The laspeyres price index for the year 2006 and 2016 was 252.10 and 302.52 respectively. The findings of the present research exhibits that the percentage inflation in export prices of Indian Crab and Crab products from 1996 to 2006 was 152.10%, while the percentage inflation rate has increased from 2006 to 2016 by 50.42%. There is inflation in export prices of Indian Crab and Crab products every decades but it is tremendous in the decade of 1996 to 2006 as compared to that of the decade 2006 to 2016. The reason behind the decline of prices in the last decade being that now many Asia countries like Sri Lanka, Bangladesh etc., have entered into the market of crab and crab product export. Due to which Indian crab and crab products have many competitors.

Some constructive measures need to be taken in respect to increase the price and demand of commercially important Crab and Crab products in the international market. Indian fishery industry must promote commercially crab aquaculture. Suitable training and funds must be provided to fishermen so that they can enhance their crab fishery business. The export system must be made hassle free with minimum documentation requirements. The Indian crab and crab products must be subjected to preservation and processing as per the international standards. This will make them easily accepted by the foreign countries reducing rejection of stocks. Through the above implementations the Indian government can increase export of crab and crab products. They can reduce rejection, increase acceptance and beat their competitor countries and can earn huge foreign currency. Earlier some

researchers like Dr. Devdatta Lad and Dr. Shashikant Patil in 2013 [6] had studied the exported Indian mariculture products price inflation rate for some years using Paasche price index. The present research work is a foremost research work and must be considered as a baseline research with a scope for future addition and analysis of data.

#### COMPETING INTERESTS

Author has declared that no competing interests exist.

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