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A study on marketing and post-harvest losses of crabs in south 24 paragons, West Bengal

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Abstract
Study reveals the marketing channel 1, in which there are intermediaries (wholesaler) involved. It shows total marketing cost incurred for a producer which involves packing, transport of the crabs that is Rs 30 /kg and producer share in consumer rupee recorded 53.33% in crab respectively.
In second table study reveals the marketing channel II, in which there are two intermediaries involved (wholesaler and company). It shows total marketing cost incurred by the producer which involves transport, packing cost of crab is Rs 30/kg. When after receiving the crabs by the wholesaler the total marketing cost incurred by the wholesaler is Rs 60/kg .Then wholesaler distribute the produce in several companies for export with certain margin and commission. Then the total marketing cost by the company Rs 175/kg. After that the purchased product collected by the consumers. So the all over total marketing cost recorded Rs 265/kg and estimated the producer share in consumer rupee is 28%.

Keywords: Marketing margin, marketing cost, marketing efficiency, price spread, producers share in consumer rupee

Introduction
Crab fisheries are fisheries which capture or farm crabs. True crabs make up 20% of all crustaceans caught and farmed worldwide, with about 1.4 million tonnes being consumed annually. The horse crab, *Portunus trituberculatus*, accounts for one quarter of that total. Other important species include flower crabs (*Portunus pelagicus*), snow crabs (Chionoecetes), blue crabs (*Callinectes sapidus*), edible or brown crabs (*Cancer pagurus*), Dungeness crab (*Metacarcinus magister*), and mud crabs (*Scylla serrata*), each of which provides more than 20,000 tonnes annually. *Cancer pagurus*, commonly known as the *edible crab* or *brown crab*, is a species of crab found in the North Sea, North Atlantic Ocean. The pincer of the edible crab is distinguishable from others by its very broad structure, orangey colour and the black teeth of each pincer. These claws tend to look more 'muscular' and stronger than other claws and this one in the photo is a whopper - as big as my hand. Now scrape out the gooey stuff in the center of the crab's body's two equal solid parts. The greenish stuff is the liver, called the tomalley. You can eat it and many love this part of the crab. If you have a female crab and you see bright orange stuff inside, that is edible.

Materials and Method

Selection of district
West Bengal is now divided into 23 districts which includes the newly formed Alipurduar district (formed on 25 June 2014), Kalimpong district (formed on 14 February 2017), Jhargram district (formed on 4 April 2017), and the splitting of the former Bardhaman district into Purba Bardhaman district and Paschim Bardhaman .24 PGS (S)) or sometimes South Twenty-Four Parganas or Dakshin 24 Parganas is a district in the Indian state of West Bengal, headquartered in Alipore. It is the largest district of West Bengal by area and second largest by population and largest fish and crab exporter district of west Bengal.

Selection of blocks
There are 29 blocks present in South 24 parganas & out of those we have selected Patharpratima block purposively for executing the study. Hooghly river is surpassing through this block & for that reason availability of crabs is very Prominent in this block.

Selection of Villages

We have selected 5% of the villages purposively for the study. Because there is large number of people have fishing as their main occupation & Natun bazar fish market that is one of the largest wholesale markets of West Bengal is also situated in one of those villages.

Analytical Tool

The stated objectives of this study were fulfilled through tabulation and analysis of the data will pertain to study. To workout the cost of marketing of crabs various costs associated with it will be aggregate.

1. Cost of marketing

The total cost incurred on marketing by various intermediaries involved in the sale and purchase of the commodity till it reaches the ultimate
consumer was computed as follow.

$$C = C_f + C_{m1} + C_{m2} + C_{m3} + \ldots + C_{mn}$$

Were.
C=Total cost of marketing
C_f=Cost borne by the producer farmer from the produce leaves the farm till the sale of the produce, and
C_{mn}= Cost incurred by the middlemen in the process of buying and selling.

2. Measures of Marketing Costs/Margin

It is the profit earned by the market intermediaries in moving the commodity from producers to consumers while performing various market functionaries.
Producer's price = this is the net price received by the producer.

PF (PA-CF)

Were. P is the producers price
PA is the wholesale price that producer received
CF is the marketing cost involved by the producer.
Producer's share in Consumer's rupee

$$P_s = (P/PR) * 100$$

Where,
P_s is the producer's share in consumer rupee
PF is the net amount received by the producer
PR is the consumer price.

3. Price spread

Price spread can be defined as the difference between the price paid by the consumer and price received by the farmer.
Net Price Received by the Consumer price

4. Producer's share in Consumer's Rupee

Its price received by the farmer expressed as a percentage of retail price i.e. price paid by the consumer rupee.

$$P_s = PF/Pc * 100$$

Where,
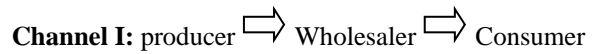P_s= Producer's share in Consumer's Rupee
P_f=Price of the produce received by the farmer
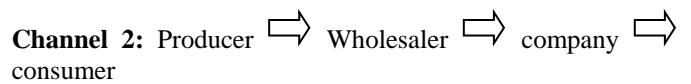Pc Price of the produce price of the produce paid by the

consumer.

Result and Discussion

Present chapter deals with results of the study. The results of the study were analysed with the use of data collected for this investigation. The data has been processed and tabulated in the light of the objectives of the present study.

Channel I: producer ⟹ Wholesaler ⟹ Consumer

Channel 1: The Producers share in consumer rupees

Sl no.	Particulars	Crab /kg
	Sales price of the producer	350
1.	**Cost incurred by producer**	
	Packing cost	20
	Transport cost	10
	Total cost	30
	Net price of producer	320
2.	**Price incurred by the Wholesaler**	
	Buying price of wholesaler	350
	Packing cost	30
	Transport cost	5
	Miscellaneous cost	10
	Total cost	45
	Wholesalers margin	205
	Selling price	600
3.	Consumers buying price	600
	Total marketing margin	205
	Total marketing cost	75
	Price spread	250
	Producer share in Consumer rupee	53.33%
	Marketing efficiency	1.28

Channel 2: Producer ⟹ Wholesaler ⟹ company ⟹ consumer

Channel 2: The Producers share in consumer rupees in channel II

Sl no.	Particulars	Crab /kg
	Sales price of the producer	400
	Cost incurred by producer	
	Transport cost	20
1.	Packing cost	10
	Total cost	30
	Net price of the producer	370
	Cost incurred by the wholesaler	
	Buying price of the wholesaler	400
	Transport cost	40
	Packing cost	20
	Miscellaneous cost	10
	Total cost	60
	Wholesaler margin	250
	Selling price	650
2.	Company's buying price	650
	Export cost	150
	Packing cost	50
	Miscellaneous cost	25
	Total cost	175
	Foreign Consumer buying price	1500
	Total marketing cost	265
	Price spread	1100
	Producer share in consumer rupee	28%
	Marketing efficiency	0.33

- Study reveals the marketing channel 1, in which there are intermediaries (wholesaler) involved. It shows total

marketing cost incurred for a producer which involves packing, transport of the crabs that is Rs 30 /kg and producer share in consumer rupee recorded 53.33% in crab respectively.

- In second table study reveals the marketing channel II, in which there are two intermediaries involved (wholesaler and company). It shows total marketing cost incurred by the producer which involves transport, packing cost of crab is Rs 30/kg. When after receiving the crabs by the wholesaler the total marketing cost incurred by the wholesaler is Rs 60/kg. Then wholesaler distribute the produce in several companies for export with certain margin and commission. Then the total marketing cost by the company Rs 175/kg. After that the purchased product collected by the consumers. So the all over total marketing cost recorded Rs 265/kg and estimated the producer share in consumer rupee is 28%.

Suggestions
Suggestion of crab farmer according to the data showed in suggestion table that most of the respondents suggested to conduct more need – based training programme and group discussion frequently and timely by the skilled and knowledgeable ones. The high capital required to grow crab ponds, so there is a need to make available adequate credit on time and at low rate of interest to crab pond producer.

Conclusion
The important findings of the study are summarized below;
Study reveals the marketing channel 1, in which there are intermediaries (wholesaler) involved. It shows total marketing cost incurred for a producer which involves packing, transport of the crabs that is Rs 30 /kg and producer share in consumer rupee recorded 53.33% in crab respectively. In second table study reveals the marketing channel II, in which there are two intermediaries involved (wholesaler and company). It shows total marketing cost incurred by the producer which involves transport, packing cost of crab is Rs 30/kg. When after receiving the crabs by the wholesaler the total marketing cost incurred by the wholesaler is Rs 60/kg. Then wholesaler distribute the produce in several companies for export with certain margin and commission. Then the total marketing cost by the company Rs 175/kg. After that the purchased product collected by the consumers. So the all over total marketing cost recorded Rs 265/kg and estimated the producer share in consumer rupee is 28%. Nowadays marketing channels plays a crucial role for both producer and consumers, that known as constraints or problems related to crab farming. Constraints by the crab farmers were categorized under different heads viz. Social, economic, infrastructural, promotional, environmental and also related to feed and diseases.

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