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Status of the largest dry fish market of East India: A study on Egra Regulated Dry Fish Market, Egra, Purba Medinipur, West Bengal

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KEYWORDS

Dry fish market;
trading system;
Egra Regulated
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A B S T R A C T

The present investigation was conducted to find out the effectiveness of 'Egra regulated dry fish market' as a marketing system in importing and exporting dry fish from different coastal areas of Bay of Bengal to different parts of India, specially north east India . The market was surveyed from April 2013 to March 2014. The study area was purposively selected and the trading system was analyzed. The market operates actively once in a week. Survey question schedule was made for the collection of data. Several species of coastal and marine dried fish like patia, lahara, vola, chanda, ruli etc were commonly available in the market. Different types of businessmen are involved in the trading system like fish processor, Beparis, Aratdars, Wholesalers, and Retailers etc. The survey revealed that the trading system till now is seasonal and the activity remains maximum in the October to January season. The price of dried marine fish varies with the size, availability, quality of the fish species. Transport, labor and electricity also play significant role in selling price determination. The marketing system is associated with a good employment generation involve men and women. The main barrier of the sustainable development of the market is lack of infrastructure, poor road condition, price instability etc.

Introduction

India is the second largest fish producing country with the contribution of 5.43% in global fish production and West Bengal has been able to secure the second position among all the states of India (FAO, 2012). West Bengal has a coastline of 157.5 km and covers mainly the districts of South and North 24 Parganas and Purba Medinipur

(Dan, 1985). Fish is an important part of the regular diet and is a cheap source of protein for the peoples of West Bengal. About 78% of total fish catch is consumed in fresh condition, 6% is used as dry fish and rest is used as frozen fish. Indian dry fish export contributes 8% of all form of fish exports and earned 754crores during

2012-2013 (MPEDA, 2013). The nutritional quality of dried fish remains intact, sometimes retains higher quality standards compared to fresh fish (Faruque *et al.*, 2012).

Marine fish drying is very common in the entire coastal zones of India. In West Bengal this practice is restricted to 24 Parganas and Purba Medinipur. These dried fishes have demand both in domestic and international market and plays an important role in employment generation of coastal poor people (Goswami *et al.*, 2002). In this dry fish marketing channel people involved early in the production chain (fishing and drying) add relatively more value and make little profit due to small scale production, poor product quality, lack of market access and high transportation cost/toll/taxation etc.(Nowsad,2007).

Egra regulated dry fish market, Purba Medinipur, West Bengal is the largest regulated dry fish market of West Bengal, India. Different kinds of dried fish from all dry fish processing area of coastal West Bengal (Digha Mohona, Sankarpur, Jaldakhoti,Saula veri Junput, Sagar Island) and Odisha usually come to this market. These dried fish later supplied to different markets such as Assam, Siliguri, Odisha, Bihar and some other parts of India and abroad.The most common dry fish traded in this market are patia, lahra,tapra,vola, ruli, tauri boi, kagja, mourala,chanda etc.

The present study was performed to understand the marketing channel, the margin of profit in different levels, hygiene condition and associated risk, and the future prospect of the market.

Materials and methods

Groups Surveyed

The dry fish marketing involve a long marketing channel system starting from the fish processors, Beparis, Aratdars, and Wholesalers to Retailers and consumers. Some individuals of all the above mentioned groups are surveyed several times season wise from April 2013 to March 2014.A standard survey schedule is prepared as followed by M.B.J.Karuki, 2011. The fish processors are interviewed in their fish drying places which are located mainly in the coastal belts of Purba Medinipur (viz.Digha mohona, Jaldakhoti, Sankarpur, Saula very, Junput etc.). All the other groups are interviewed in the dry fish market of Egra. In this system the people involved in processing of dried fish are called fish processor. In the processing industry two categories of workers are common. The first group comprises owners of drying enterprises and the others are labor. The latter group also includes female workers, child along with men. Beparis are relatively large and professional trader who bought dried fish from fish processors and generally sell it to the wholesalers, retailers in wholesale market.

Analysis of Survey data

All the collected data were reduced to tabular form using standard statistical methods. For dry fish marketing, commission agents involved were identified and marketing costs and profits were determined using flow diagrams (Islam, 2006). All calculations were calculated by using Microsoft Excel 2007.

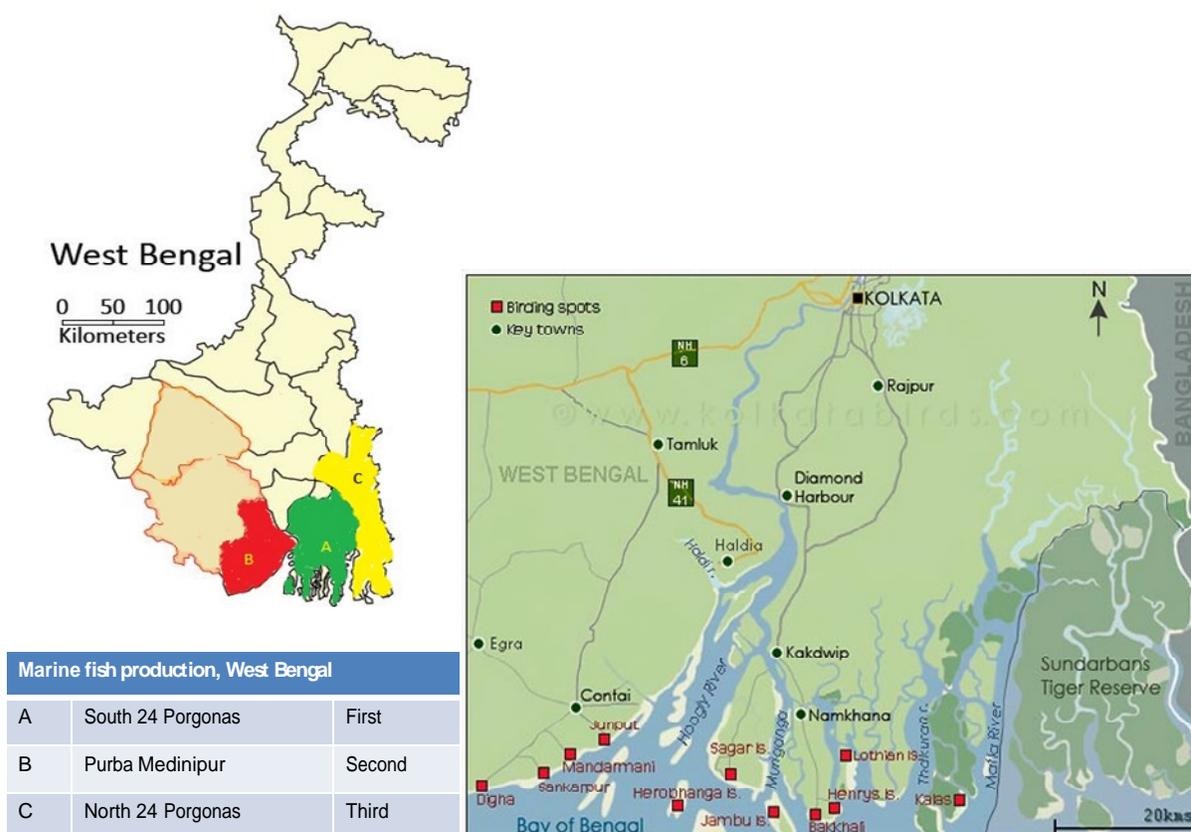


Fig.1 Districts of West Bengal with high marine fish producing potential

Result and Discussion

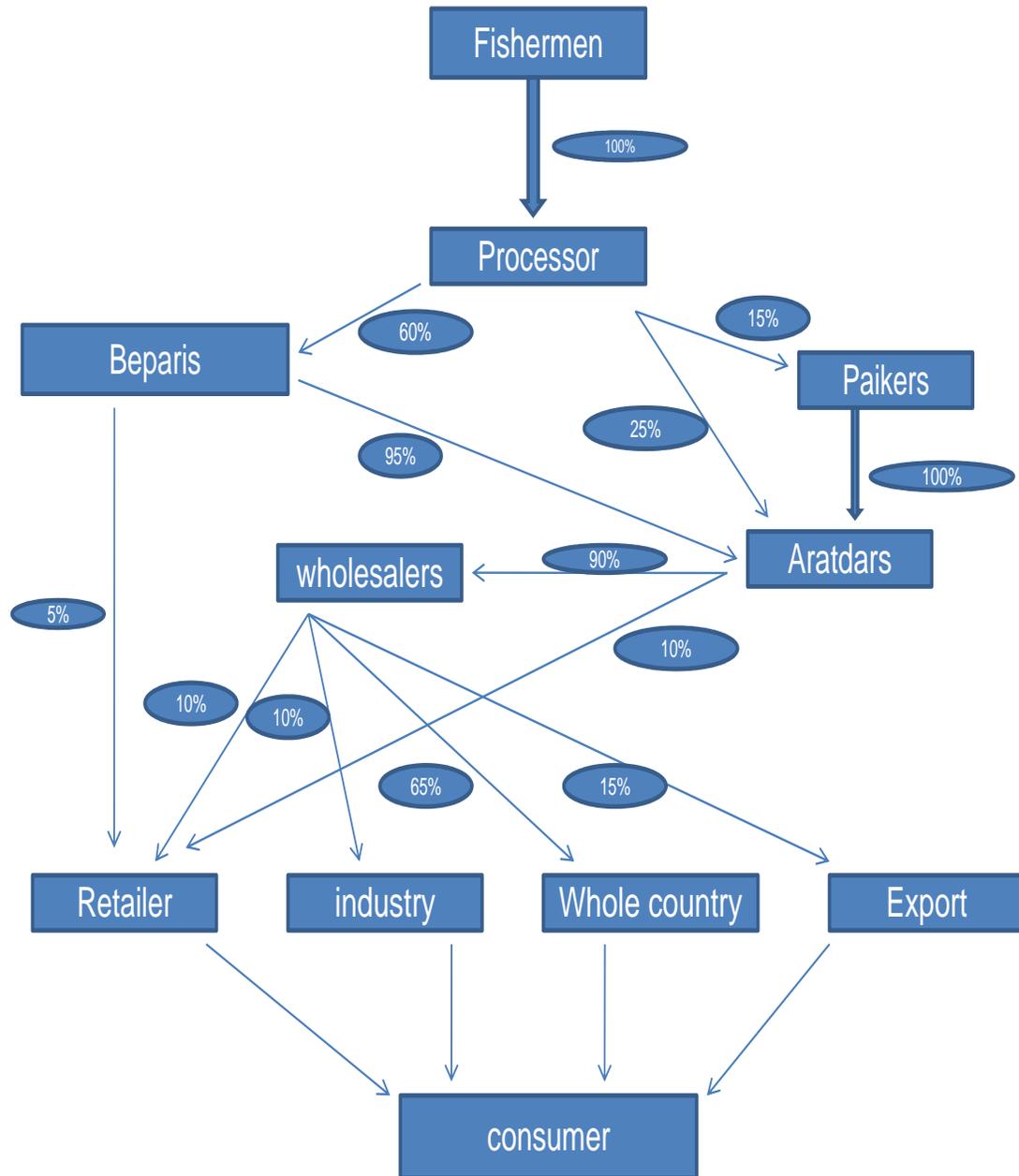
Marketing Channel of Egra Regulated dry fish market

All dried fish traded in this market pass through private channels. Different categories of businessman are involved such as fish processors, Beparis, Aratdars, Wholesalers and retailers. In general Beparis collect the dried fish from the fish processors and sell it to the Aratdars. Wholesalers purchase from Aratdars and sell it to the retailers and consumers in the market. Total marketing channel of dry fish is presented through a flow diagram.

Common available dried marine fish *Rupapatia (Lepturacanthus savala)*:

Classification: Actinopterygii (ray-finned fishes) > Perciformes (Perch-like) > Trichiuridae (Cutlassfishes) > Trichiurinae
Common length: 70.0 cm

Biology: Inhabits coastal waters and often comes near the surface at night. Feeds on variety of small fishes and crustaceans. Caught mainly with shore seines, bagnets and coastal bottom trawls. Marketed fresh and iced as well as dried salted (FishBase, 2013).



Tauri boi (*Liza persia*):

Classification: Actinopterygii (ray-finned fishes) > Mugiliformes (Mulletts) > Mugilidae (Mulletts)

Common length: 20.0 cm

Biology: Inhabit shallow coastal waters. Feed on detritus, minute benthic invertebrates and algae. Oviparous, eggs are pelagic and non-adhesive (FishBase, 2013).

Tapra (*Opisthopterus tardoore*):

Classification: Actinopterygii (ray-finned fishes) > Clupeiformes (Herrings) > Pristigasteridae (Pristigasterids)

Common length: 15.0 cm

Biology: Found close to shore and also entering estuaries (e.g. Aluhaluh on Barito River in Kalimantan, Indonesia). Ascends rivers into the tidal zone. Feeds on mysids, *Pseudodiaptomus* and copepod eggs, also prawns and other small crustaceans, bivalve eggs and larvae, amphipods and small fishes. Spawns in late February or early March to July or August (around Karwar, India) (FishBase, 2013).

Vola (*Panna microdon*):

Classification: Actinopterygii (ray-finned fishes) > Perciformes (Perch-likes) > Sciaenidae (Drums or croakers)

Common length: 20.0 cm

Biology: Inhabits shallow coastal waters and estuaries; young and juveniles occur in mangrove swamps. Also caught with bottom trawls, and hand-lines. Sold fresh and dried salted in markets (FishBase, 2013).

Lahara (*Harpadon nehereus*):

Classification: Actinopterygii (ray-finned fishes) > Aulopiformes (Lizard fishes) > Synodontidae

Common length: between 10 and 25 cm

Biology: Benthopelagic, inhabits deep water offshore for most of the year, but also gathers in large shoals in deltas of rivers to feed during monsoons. An aggressive predator. Feeds on small fishes. Primarily caught along Maharashtra with the bag-net. Also caught with bottom trawls (FishBase, 2013).

Ruli (*Coilia dussumieri*):

Classification: Actinopterygii (ray-finned fishes) > Clupeiformes (Herrings) > Engraulidae (Anchovies) > Coiliinae

Common length: 17.0 cm

Biology: A coastal and estuarine species, occurring in fully saline water, but also able to tolerate lowered salinities, perhaps almost fresh water. Feeds on copepods, prawn and fish larvae, various unidentified crustaceans and cypris, also stomatopod larvae, mysids, polychaete larvae, isopods and *Sagitta*. The breeding season is perhaps extended; probably entering estuaries to breed (FishBase, 2013).

Traders

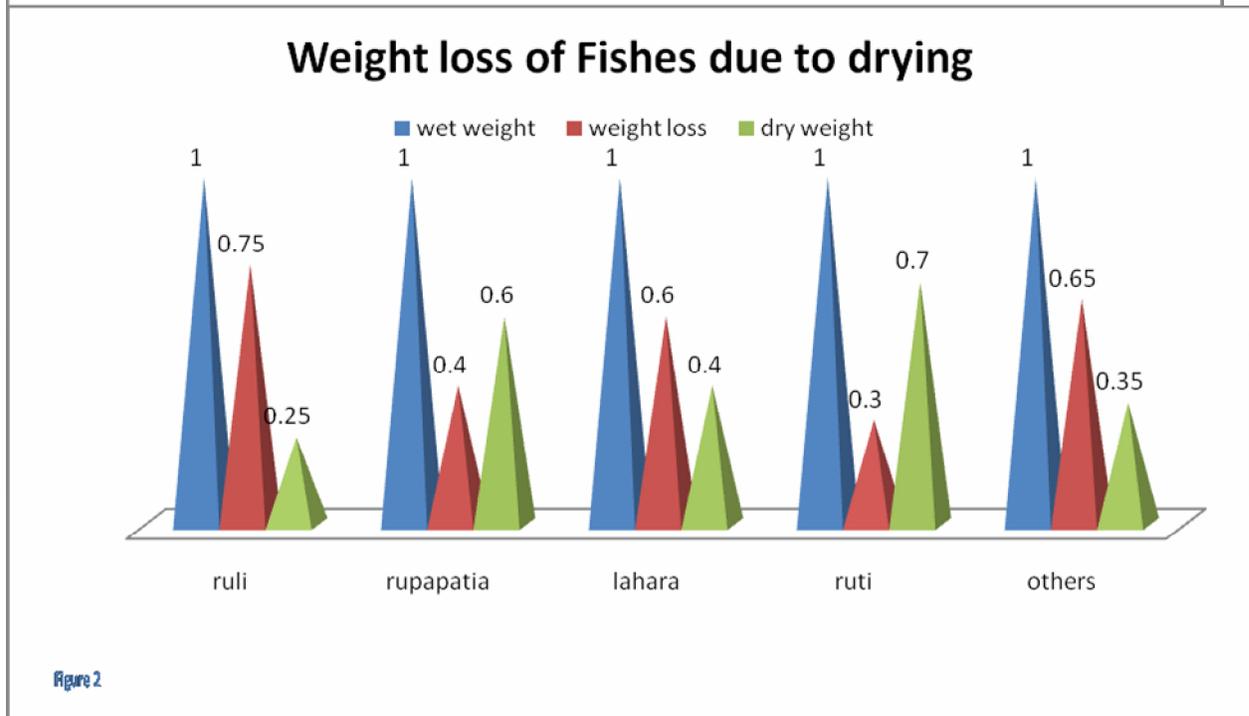
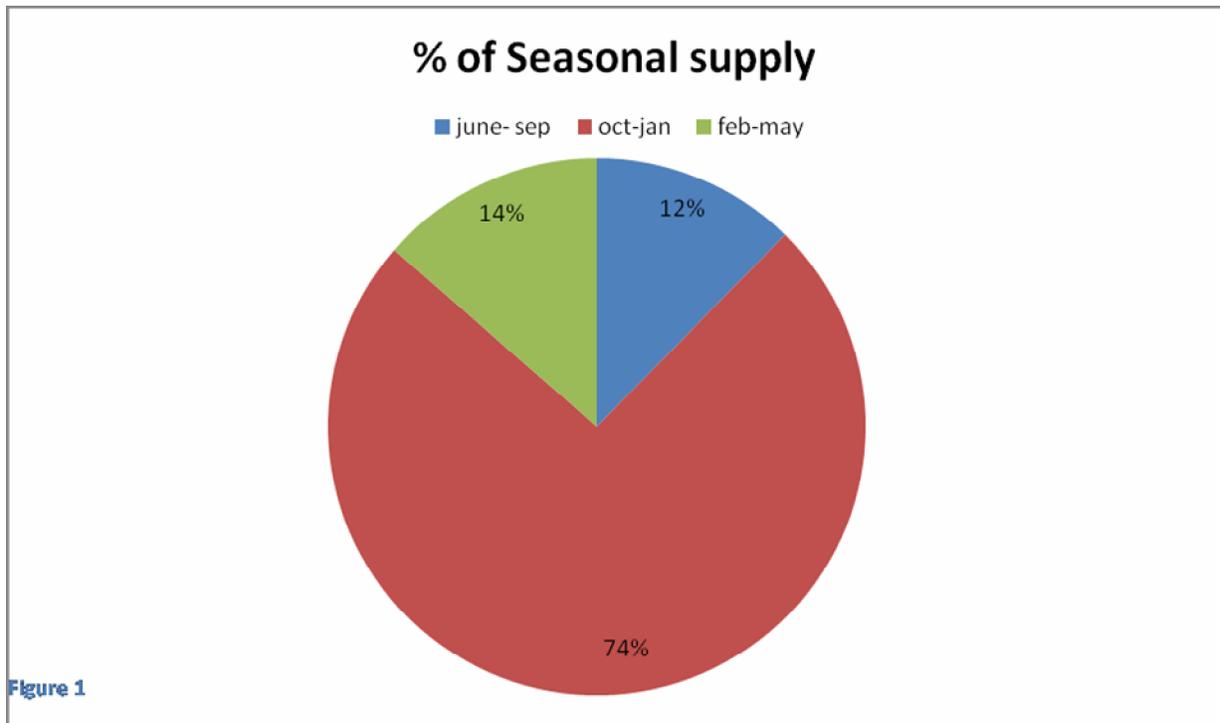
Egra regulated dry fish market is the largest dry fish market in West Bengal. Several Aratdars and wholesalers operate here. It is estimated that 14000 to 18000 tons of dried fish move through Egra regulated market per annum. The market remains most active during the winter season (October to January) as the supply and climate remains most consistent. Rest of the season the supply of the fish falls (Fig 1 & 2). The dry fish trading system in West Bengal depends on several stakeholders like fish processor, Beparis, Aratdars, Wholesalers and Retailers.

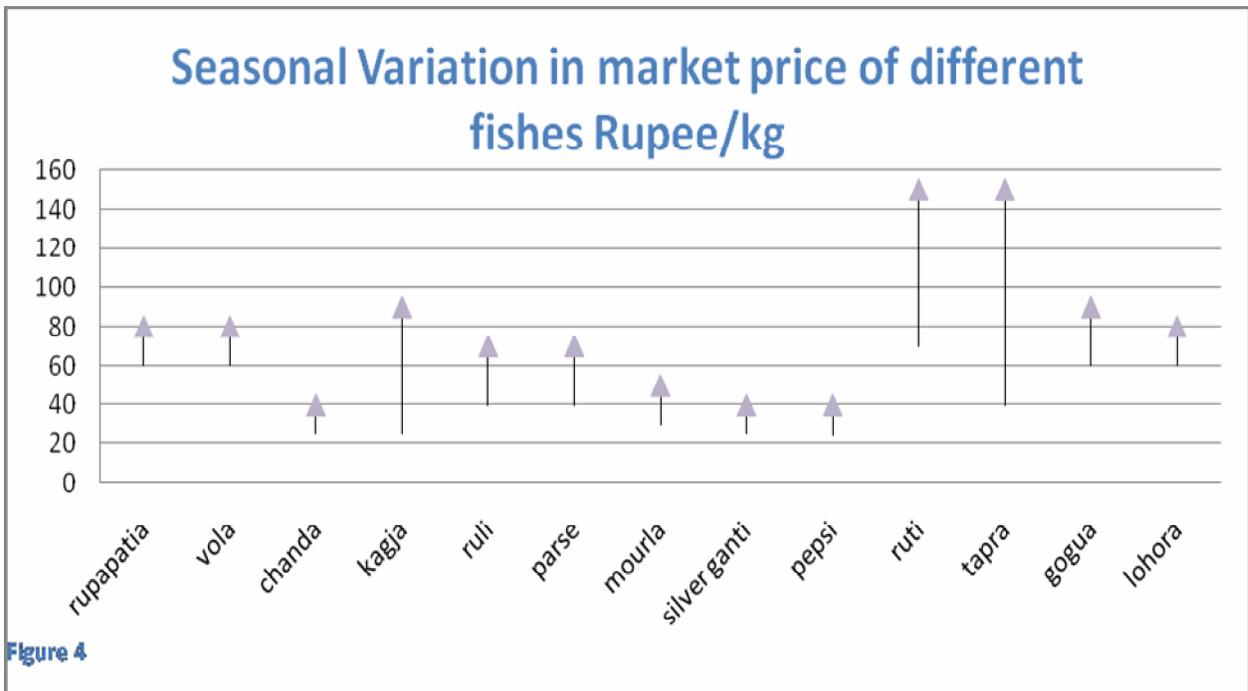
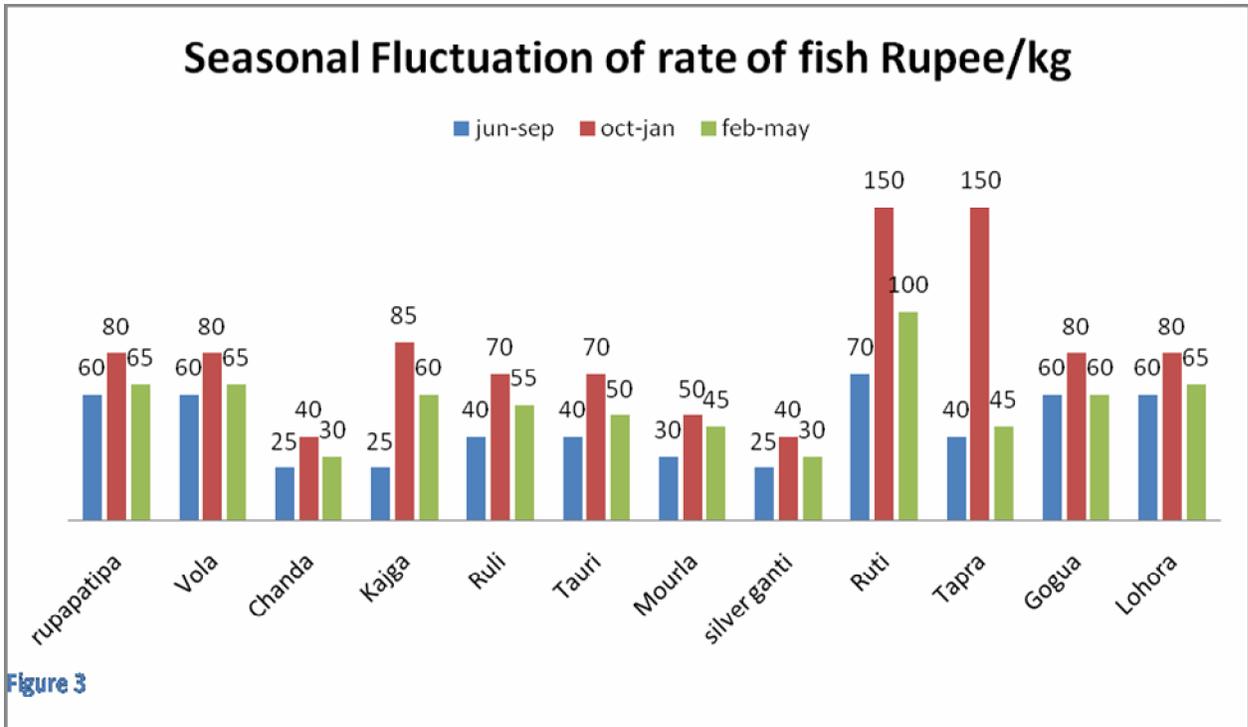
Mode of Transport

In general the fish drying farms are located in the coastal areas. After drying they are purchased by Beparis and Aratdars. Here the means of transport is either mechanized vans or small trucks. Aratdars sale the collected dried fishes to wholesalers in the market. Here big trucks are used for the transportation system.



Fig: A: Entrance of Egra regulated dry fish market; B & C: Marine shrimp & Fishes caught by fishermen; D & E: Fish drying; F-H : Marketed dry fishes





Relative Supply of Different Fishes

■ gogua ■ lohora ■ Rupapatia ■ ruli ■ tapra ■ others

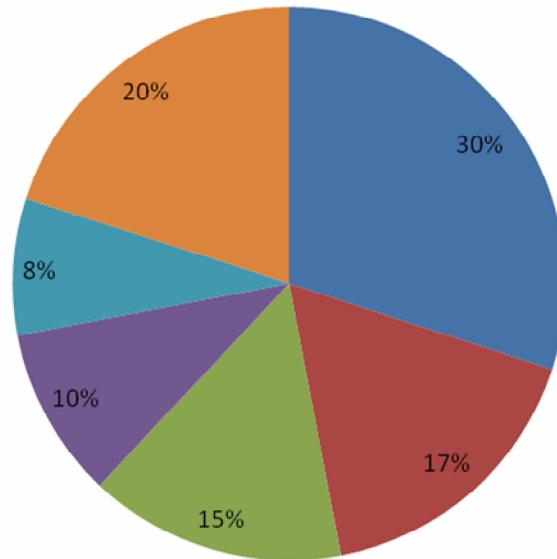


Figure 5

% of Import of dry fish

■ Odisha ■ Digha Mohona ■ sankarpur ■ Mandarmoni ■ junput ■ Andhra pradesh

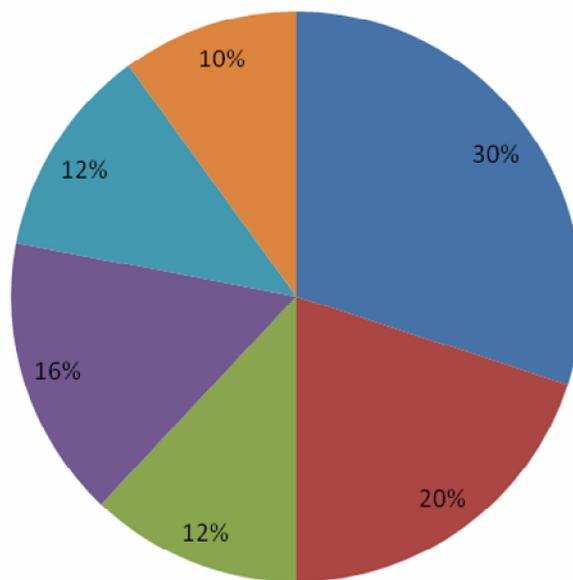
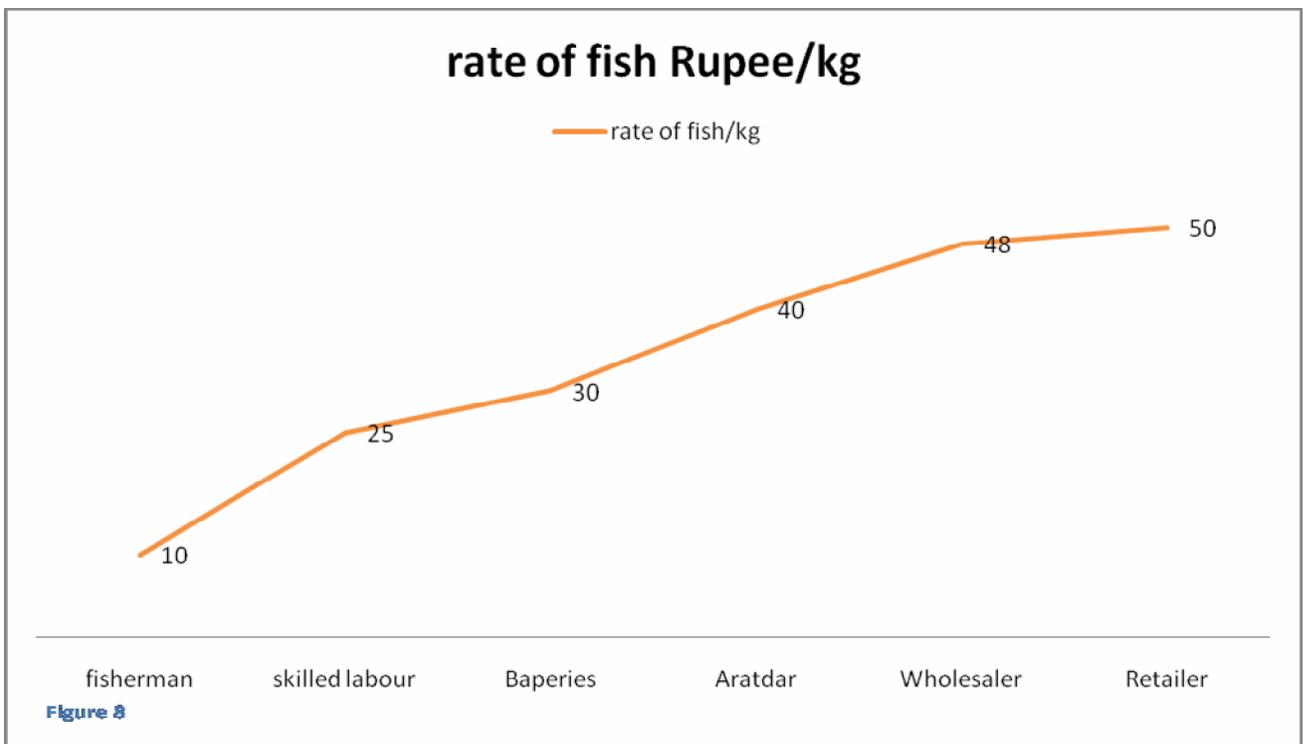
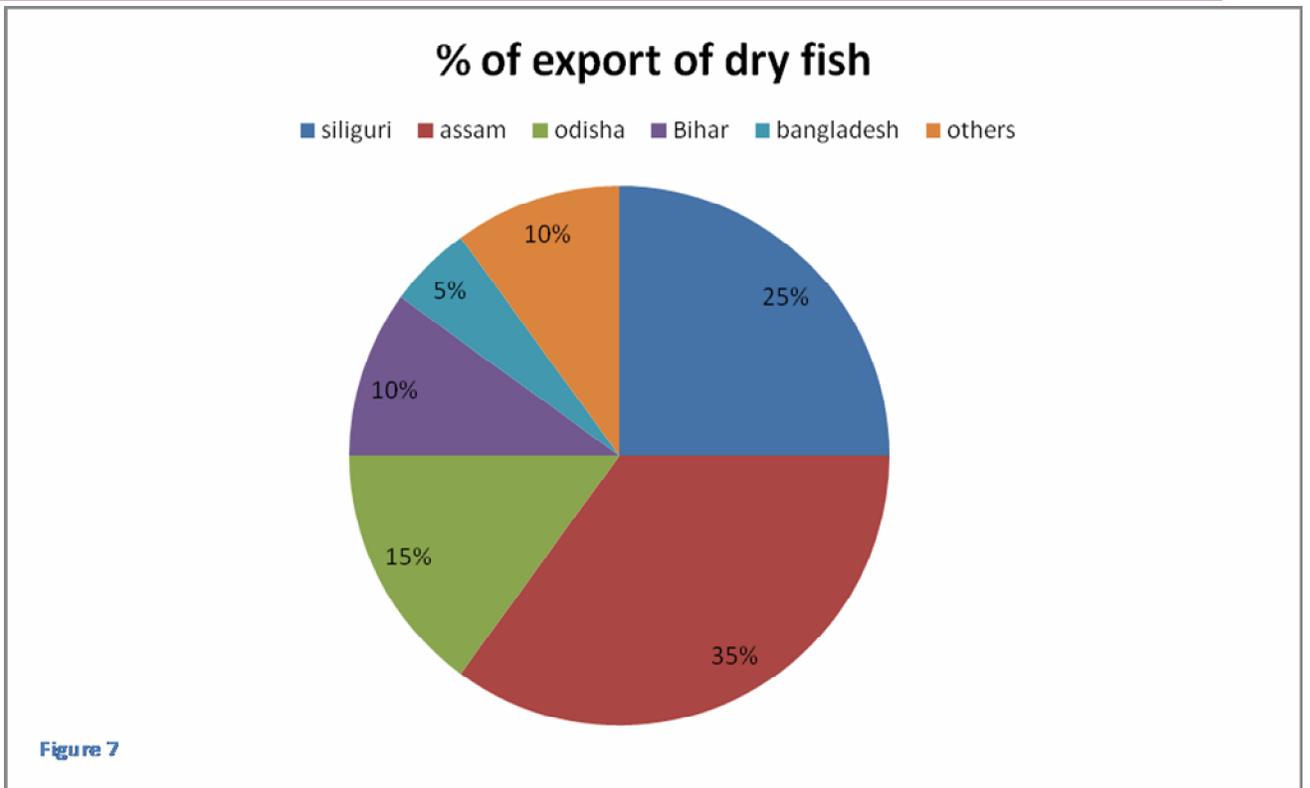


Figure 6



In some areas where the road transportation system is not well developed as in South 24 Parganas, the Aratdars use ferry system (from Sagar Island to Petuaghat) as best alternative transport system. The Egra Regulated market operates weekly at every Saturday. Retailers and different types of consumers purchase fish as per their requirement. Fish are sorted/graded and repacked either inside or nearby the market. Manual labors work here for loading and unloading. Now a significant amount of dried fish like patia, lahara, gogua, tapra is exported to Bangladesh.

Comparative rate of dried fish at Egra regulated dry fish market

The price of different dried marine fish depends on the size, availability, quality of the species, transport, labor and season (Figure 3). During winter season the rate of all the available fish increases as the quality of fish drying enhances. The comparative rates of available fish are given (figure 4).

Species Availability

Due to the recent application of deep sea trawling system by the fishermen of coastal West Bengal, a good quantity of marine fish is available in the market. The most common ones are patia, lahara, tapra, vola, ruli, tauri boi, kagja, mourala, chanda etc. Availability of species varies from season to season. Most variety is found in winter season than summer season and others (Fig 4, 5, 6 & 7).

Marketing Costs

Marketing costs dried fish include expenses such as transport, levy and market fees, purchasing of polypropylene bags, ice, electricity, hired labor, storage etc. The costs of fish marketing depend on the

volume of fish, distance from the market and mode of transportation etc (Fig 8,3 & 4).

Hygienic Condition

Maintaining the hygienic condition of the fish market is very essential because the chances of fecal contamination are high. Such conditions promote and maintain a background population of blowflies mainly during rainy season. Fish processors use insecticides to control the fleas and to maintain the hygienic condition bleaching powder is used both in fish drying areas and in the markets.

Conclusion

West Bengal is the only state in India, where fishes have been cultivated in every kind of water body i.e. brackish water, sweet water, sewage water and marine water as well. As a result a consistent amount of marine fish is sold fresh as well as after drying. Marine dried fish marketing plays an important role in the economy of West Bengal as well as in India.

However, concerns arise about the long-term sustainability of marine dried fish marketing due to poor supply of fish in the non-winter season. It is due to poor infrastructure in fish drying. Fish processors depend on the climatic condition for drying of fish as advanced fish drying chambers are unavailable. Furthermore poor road and transport facilities, lack of credit facilities, lesser Govt. interest appears as barrier for the long term sustainability of the system. However the Egra regulated market is located adjacent to the Contai- Egra State High Way which is well connected with all the coastal areas of coastal Purba Medinipur. This provides a good opportunity to both the fish importers

and exporters to establish a sustainable marketing system.

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