

was higher secondary and the mean farming experience was 13 years. The average annual yield/ha and annual income/ha were estimated at 7.42 tonnes and 64.23 lakhs, respectively. The overall distribution of inbound logistics revealed that almost all the inputs were transported through trucks, auto rickshaws and motor cycles and stored. The overall farm gate price was estimated at Rs. 433.70/kg. Among the VCM practices, feed and feeding management contributed the highest (42.95%). The results of regression model (performed on cost contribution of value chain processes to final price) and factor analysis (frequency of performing VCM processes) concluded that the shrimp farmers were regularly performing the VCM operations such as feed and feeding management, energy usage, application of probiotics, chemicals and minerals, check tray monitoring and sampling. Alternatively, the shrimp farmers were poorly performing the VCM processes of waste water management, disinfection protocol, disease management and water quality management.

FG PO 06

Valuation of marine fish landings in India: An empirical analysis

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Indian marine fisheries sector contributes to economic development by way of food security, employment, foreign exchange, equity and many other externalities. The marine fish landings in India has registered the peak of 3.94 MT during 2012, then shown a decelerating trend and reached 3.63 MT in 2016. Amidst fluctuation in landings

the valuation of fish based on its price realization at the landing centre and retail centre showed a consistent growth rate of 5-10 during the last decade and was realized at Rs. 48,381 crores at the point of first sales and Rs. 73,289 crores at the point of last sales. This has been primarily due to the increase in consumption of fish coupled with movement of fish from non-consumption to consumption areas generating higher prices and revenue. The export earnings amidst umpteen limiting factors showed a positive growth over the years. The present study on valuation of fish is an attempt to understand the spatio-temporal valuation of fish vis-à-vis landings over last two decades. The objectives of the study include assessing the growth and instability in valuation of fish landings across states vis-à-vis major species and decompose the valuation into its constituent factors and to develop a Price Instability Matrix (PIM) based upon parameters like landing center and retail center prices. The matrix aims at analyzing the price behavior within states in rational decision in arriving better demand-supply relationships. The study indicated that increased valuation of fish occurred due to fish movement across states, resulting in higher price realization. However, it has to be cautioned that quality is not at stake and fish food security of domestic consumers is to be ensured in the context of fish trade. The study advocates ensuring affordability, accessibility and availability as key factor contributing to fish consumption.

FG PO 07

Market opportunity for thermal processed seafood in India

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Thermal processing is an age old well established food preservation technology. The Indian seafood canning industry, once at its boom has collapsed due to non-availability of suitable cheaper containers and competition from other countries. The development of domestic market is very essential to sustain the growth and development of this industry. In recent years there is an increasing demand for convenience products in India due to modernization of the country with supermarkets and hypermarkets across urban places. The demand is also expected to increase due to population growth and increasing disposable income. Market size of canned seafood in India is very small and highly fragmented compared to frozen seafood sector. However, its demand is increasing with retail sales expected to register an increase from Rs 7.38 crores during 2007 to Rs 24.78 crores during 2017. Canned crab is the most consumed product in India followed by shellfishes and tuna. Creating consumer awareness regarding the advantages of canned seafood is essential for the sustainable growth of this industry. Availability of alternative containers like tin-free steel cans, retortable pouches, semi-rigid containers along with the recent Government policy initiatives like developing infrastructures (Agri-export zone, mega food parks), private participation with 100% FDI and joint ventures with global players is expected to augment the growth of seafood canning industry in India.

FG PO 08

Vannamei introduction in India: A SWOT analysis

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Shrimp farming occupies a significant position in Indian economy. Adoption of the SPF (Specific Pathogen Free) Vannamei (*Penaeus vannamei*) in India's coastal aquaculture system from 2009-10 has significantly contributed to this. In this backdrop, a SWOT analysis of vannamei culture in India was done. Strength analysis showed that vannamei enjoys good demand in all major overseas markets of US, south East Asia and EU. Lesser production and exports in south East Asian countries due to disease outbreaks and low countervailing duty on Indian shrimp in the US during 2009-10 opened up wide opportunities for Indian vannamei. Profitability, SPF broodstock, short growth phase, disease resistance, availability of support from hatcheries and quarantine facilities made vannamei culture successful. The weaknesses include possible infections from horizontal transmission for some SPF species, non-adherence to biosecurity and regulatory measures, difficulties in applying BMPs for small farms etc. The opportunities include 1.2 million ha brackish water in which only 10% is being currently used, possible diversification of farming by including other shrimp species, finfishes and crabs to mitigate the risk associated with single species and increasing demand from European Union.. Threats analysis showed that over-dependence on vannamei without diversification may lead to total economic loss. Also, disease susceptibility, absence of quality control mechanisms for feed and other inputs, single commodity focus with no rotation, continuous vannamei culture without holidays, over-dependence on exports, sudden global recession, high quality standards imposed by importers, more competitors and technical barriers may lead