

## Study on Constraints Experienced by Shrimp Exporters in Andhra Pradesh

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### ABSTRACT

The constraints were identified through survey method and are ranked in order of priority as they perceived it. The exporters were asked to list priority-wise major constraints they were facing in shrimp exporting. All these were sorted and screened and finally seven major constraints were identified. The availability of quality raw material ranked first as the most important constraint for the exporters with a Responsive Priority Index (RPI) of 0.84. Whereas high cost of investment ranked second with a RPI of 0.66 followed by the lack of diversified products with RPI of 0.63, poor technical advancement with RPI of 0.62, uncertainty in prices with RPI of 0.56, lack of research and development with RPI of 0.41 and finally competition among the exporters with RPI of 0.28.

**Key words:** Constraints, Shrimp exporters, A.P., Responsive Priority Index.

Fisheries sector has been identified as a Growth Engine for socio-economic development of the new State of Andhra Pradesh. AP stands first in total fish and prawn/shrimp production in India since 2013-14 both in terms of production and value. The contribution of A.P. fisheries sector was 6.01 per cent in Andhra Pradesh GSDP, and was about 0.83 per cent of GDP of the nation. During 2016-17, the fish and prawn production achieved 27.49 lakh tonnes with GVA of Rs.34041 crore, with growth rates of 22.35 per cent and 35.65 per cent respectively. Andhra Pradesh has major share in the seafood exports from our country with 45 per cent share in the year 2016-17. Seafood worth Rs.17000 crore was exported from the state in the year 2016-17 against the total exports of worth Rs.37871 crore from India. Brackish water aquaculture in Andhra Pradesh is almost synonymous with shrimp culture. The Black tiger shrimp culture i.e. *Penaeus monodon* was introduced in late 1990s and reached to peak in 1994. White spot disease and other diseases are some of the important factors leading to the declined *P. monodon* production. Due to continuous outbreak of WSSV in *P. monodon* culture leads to shattering of shrimp culture in India (Balakrishnan *et al.* 2011). Due to intensive shrimp aquaculture, this activity has resulted in several problems including higher incidence of disease outbreaks (Porchas *et al.* 2010). The objective of the present study is to identify the problems of shrimp exporters in Andhra Pradesh.

### MATERIAL AND METHODS

The study was conducted at three districts of Andhra Pradesh namely Visakhapatnam, Nellore and West Godavari based on export potential and processing of shrimp. In Andhra Pradesh there were

fifty seven exporters consisting both manufacturer and merchant exporters with capacity of handling 2861.17 tonnes registered with MPEDA for exporting all items of marine products up to 2017-18. Out of 57 exporters a sample of 30 (about 53 per cent) was selected by Tippet random number method and personally interviewed with the help of a pre-tested comprehensive questionnaire.

### Responses Priority Index (RPI):

In the quantification of constraints expressed by the respondents, there was a problem whether to give more emphasis for number of responses to a particular priority or to the highest number of responses to a constraint in first priority. But, both lead to different conclusion. To resolve this Responses-Priority Index (RPI) as a product of Proportion of Responses (PR) and Priority Estimate (PE) was adopted. The PR for the  $i^{\text{th}}$  constraint will give the ratio of number responses for a particular constraint to the total responses as given below (Rao, 2011).

$$(RPI)_i = \frac{\sum_{j=1}^k f_{ij} \cdot X_{[(k+1)-j]}}{\sum_{i=1}^I \sum_{j=1}^k f_{ij}} \quad \dots \dots \dots (1)$$

Where,

$(RPI)_i$  = Response Priority Index for  $i^{\text{th}}$  constraint.

$\sum_{j=1}^k f_{ij}$  = Total number of responses for the  $i^{\text{th}}$  constraint.

$f_{ij}$  = Number of responses for the  $j^{\text{th}}$  priority of  $i^{\text{th}}$  constraint ( $i=1,2,3,\dots,I$ ;  $j=1,2,3,\dots,k$ ).

$k$  = Number of priorities.

$X_{[(k+1)-j]}$  = Scores for  $j^{\text{th}}$  priority.

$\sum_{i=1}^I \sum_{j=1}^k f_{ij}$  = Total number of responses to all constraints.

**Table 1. Prioritization of shrimp exporter's constraints in Andhra Pradesh**

S. No	Constraints	Respective priority rankings							RPI	Rank
		1	2	3	4	5	6	7		
1	Non- availability of quality raw material	13	8	6	0	1	2	0	0.84	I
2	High cost of investment	2	10	4	8	0	5	1	0.65	II
3	Competition among the exporters	0	0	1	0	8	9	12	0.28	VII
4	Uncertainty in prices	8	0	3	6	4	2	7	0.56	V
5	Poor technical advancement	0	7	5	10	7	1	0	0.62	IV
6	Lack of diversified products	7	5	7	0	0	8	3	0.63	III
7	Lack of research and development	0	0	4	6	10	3	7	0.41	VI
	Total	30	30	30	30	30	30	30		

Here, larger the RPI, higher the importance for the particular constraint.

### RESULTS AND DISCUSSION

The constraints were identified through survey method and are ranked in order of priority as they perceived it and are given in Table 1.

The exporters were asked to list priority-wise major constraints faced by them in shrimp exporting. All these were sorted and screened and finally seven major constraints were identified. It could be observed that availability of quality raw material ranked first as the most important constraint for the exporters with a RPI of 0.84. Majority of the exporters reported that procured raw material majorly in unhygienic conditions and also contains antibiotics. As they bought major portion of raw material for processing from the middlemen. These middlemen pooled the product from the various farmers across different regions. Hence the exporters opined that they had no control over the direct handling with the product.

High cost of investment ranked second constraint with a RPI of 0.66., transportation cost is major contribution in cost of investment. The shipping costs ranges from 5 lakh to 6 lakh rupees per consignment to reach the destination point. Whereas For reaching the consignment to port area via road transport for shipping the cost range from Rs.25000 to Rs.30000. High transportation and shipping costs and the unavailability of equipped transportation were mentioned another infrastructural constraints for exporting. Due to high cost of investment the export prices were not much higher than the production cost and their margins also shrunk. In case of merchant exporters face severe scarcity in raw material procurement as the demand for shrimp was increasing in international market. Due to shortage of supply they were unable to run their processing industry to the

fullest capacity so that it leads to increase the cost of processing. Dey *et al.* (2005) suggested small plants would seem to require government policies and support designed to minimize the cost of compliance with international standards.

Lack of diversified products ranked third constraint with RPI of 0.63. In Andhra Pradesh major processing of shrimp is in the form of Individual Quick Frozen (IQF) and Block frozen. Limited number of processing industries go for value added products like cooked and breaded form. Processing shrimp in contaminated water would make the product bacteriologically unfit for human consumption.

Poor technical advancement ranked fourth constraint with RPI of 0.62. The diversification of the product is less due to poor technical advancement, weak infrastructure facilities like potable water and power and Poor packaging and labelling of the product. There is a need of large fund requirements for upgrading processing facilities. Kiet and Sumalde (2008) stated improving the productivity and quality of shrimp through technology is vital to the shrimp industry, this would translate into a higher export price. In this regard the exporters looked to the government for support with a scheme for raising funds at a flat rate of interest.

Uncertainty in prices ranked fifth constraint with RPI of 0.56. These fluctuations are mainly sluggish demand in the US market and vannamei supply is exceeding the demand in the world market. Due to these they were unsure of the returns. Finally lack of research and development ranked sixth with RPI of 0.41 and competition among the exporters ranked seventh with RPI of 0.28. The results are more in line with the findings of Shyam and Aswathy (2011) they observed constraints of Indian sea food exporters mainly irregular supply of raw material, heavy competition for target markets, high cost of production and low capacity utilization.

### CONCLUSION

Introduction of quality certification system and laboratory facilities with modern sophisticated instruments and methodology for testing the quality parameters at all levels from culture to exports of shrimp are necessary to ensure food safety standards. To curtail the investment cost subsidies in electricity and heavy equipment are essential for the development of aqua industry in Andhra Pradesh. Fishery products subjected to spoil more rapidly than other foods so that post-harvest handling, processing, preservation, packaging, storage and transportation require particular care to maintain its quality and nutritional attributes and avoid wastages and losses.

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Received on 24.07.2019 and revised on 28.09.2019