



## Abstract

Shrimp business in international market is very competitive. Scarcity of raw material, poor quality products, improper culture technology, lack of modern machinery facilities, competition with rival countries, fluctuation market price, fluctuation of currency, long time of shipment, etc. are the major problems in shrimp business around the world. Now, this is high time to take the necessary steps to overcome this situation. It should be mandatory that there is no defect that comes up in final products. It should be kept in mind that a single defect can spoil the whole product and make a negative impression on it. The chapter highlights the problems, solutions, and some recommendations for sustainable seafood business in future.

## Keywords

Zero tolerance · Illegal practice · Business chain · Middlemen

The following recommendations may help to develop a sustainable business in shrimp processing industries.

- **Innovation of technology for sustainable shrimp business**

The export market has huge demand of shrimp because of its boneless characteristics and unique taste. Scarcity of raw materials, higher operational cost, international and local market competition, etc. are the hindrances to sustainable shrimp business. Processing industries are going to declare themselves bankrupt because of unstable shrimp business. Shrimp farmers are also stopping shrimp production or switching to agriculture. New technologies should be adopted for increasing shrimp production. Besides *P. monodon* and *L. vannamei* technologies should be adopted for the production of harina,

**Fig. 14.1** Improper way (clump production)



chaka, cat tiger, or others species of shrimp. Intensification of shrimp production should be in sustainable way. Organic production is too much appreciated.

- **Zero tolerance of defects in final product**

Defects that arise in final product are nothing but unconsciousness of the suppliers. The defects that are not accepted by the buyer can possibly be removed by increasing awareness. Hanging meat, vein, dropping/loose head, discoloration, improper grading, non-uniformity, soft shell, improper sealing, damaged master carton, etc. can be possibly removed by proper monitoring. Processing industries should adopt zero tolerance principle in final products.

- **Color separation**

Color separation means production of shrimp at uniform color. It's not a serious problem but important for quality products. Uniform color of shrimp helps to look products very good. It should be a mandatory process for all shrimp processing industries. Mixed color shrimp makes a negative impression about the products although the product is of good quality. Color separation should be the mandatory requirement for all shrimp processing industries.

- **Removing of clumps**

Clumping is not a big problem, but hammering on clump is a serious problem for IQF shrimp. Hammering breaks down the glazing of shrimp resulting in quality damage of the final product. A good arrangement of shrimp in the IQF belt can help to avoid clumping. Supplier should confirm that there is no clump shrimp present in final products. See the following pictures (Figs. 14.1, 14.2, 14.3, 14.4, and 14.5).

- **Illegal practice should be stopped**

People involved in seafood businesses should be honest in their business. Receiving of raw materials containing metals and chemicals (i.e., water, jelly, potash alum, etc.) must be stopped strongly though these types of activities are very rare in practice. We must sure zero tolerance for these illegal activities. It would be better if processing industries collect raw materials directly from the cultured farm or the processing industries have their own cultured farm. It will reduce market price and wicked competition among the suppliers.

**Fig. 14.2** Clump shrimp in final products



**Fig. 14.3** Hammering on clumps to remove clumps



**Fig. 14.4** Breakdown of glaze due to hammering





**Fig. 14.5** A good practice, resulting no clumps and no hammering and no breakdown of clumps

Besides, excess additives, oversoaking, mixing of defect shrimp, mixing of lower grade shrimp, low quality packaging, etc. should be avoided strongly. Illegal practice may collapse seafood business. It must be assured during seafood production and will lead to sustainable seafood business. Some suppliers have already started to collect raw materials directly from cultured farm to avoid such type of activities.

- **Reduction of middlemen from business chain**

It is necessary to avoid middleman from the business chain for sustainable seafood business. Engagement of middleman (commission agent, depot owner, broker, foria, etc.) in supply chain increases production cost. Shrimp farmers (getting lower price) as well as consumers (paying higher price) both are losers, but significant benefit goes to the middlemen of the supply chain. Reduction of selling price is very important for international seafood business competition. The following diagram explains the intervention of middlemen in supply chain and how intervention of middlemen can be stopped (Fig. 14.6).

- **Longtime stocking of raw materials should be stopped**

Suppliers stock raw materials intentionally or unintentionally for higher price and off-season business or sometimes in an emergency. Quality of longtime stock products is not good because of thawing and reprocessing of shrimp. It should be mandatory that no one can stock raw materials in cold storage for a longer time. In case of emergency, stocking may be allowed for a short time. Longtime storage not only damages the quality of products but also makes the market unstable because of the scarcity of raw materials, market competition, and higher prices.

- **Make sure strong commitment in business dealings**

Strong commitment is a prerequisite for any kind of business dealing. Overbooking should be avoided strictly. Wrong commitment, delay shipment, non-shipment, increment of price, etc. are not a good sign of quality business that makes the buyer confused and guided to leaving the country. Sometimes buyers have to pay a large amount of demurrage to their customers because of delay shipment or non-shipment that makes the buyer crazy. It's not only a problem for the buyers but also the same for the suppliers. Delay of payment, non-shipment is the problem of buyer also that makes the suppliers crazy. The percentage of such

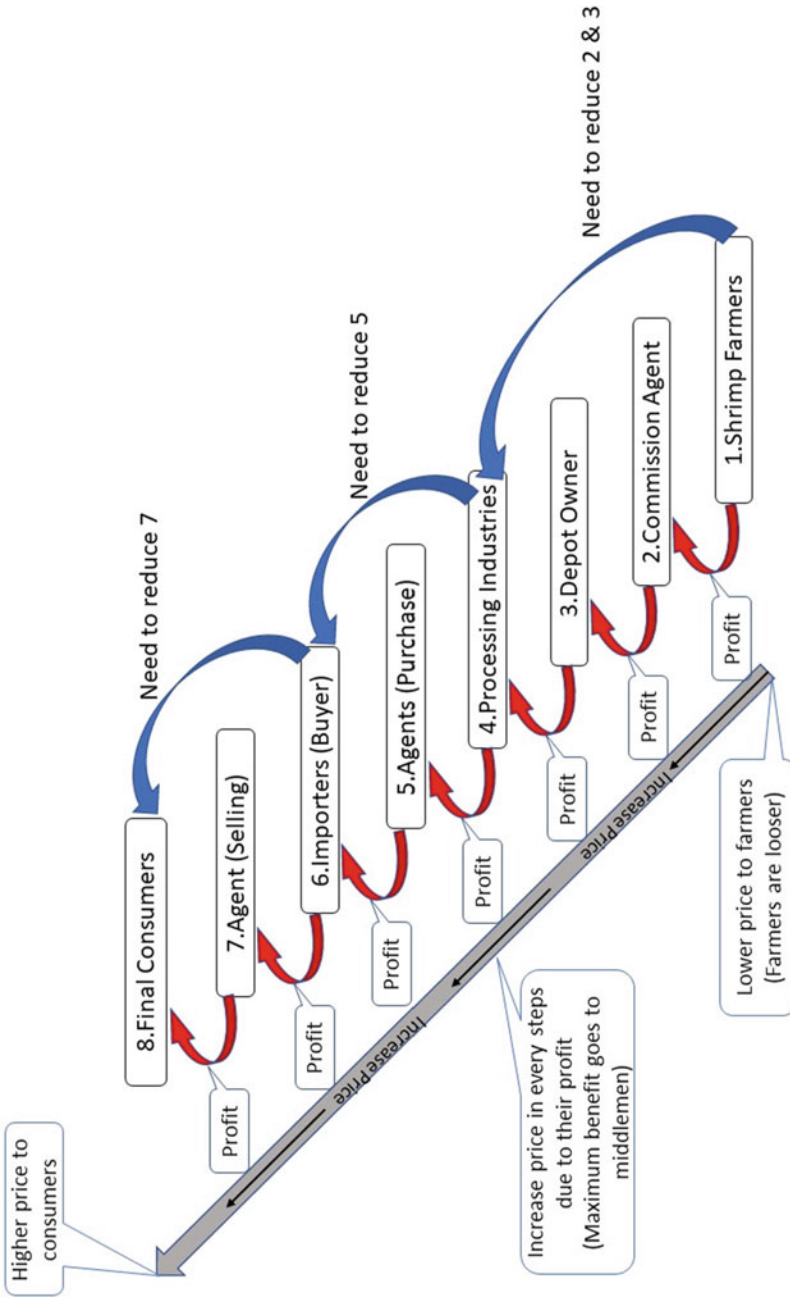


Fig. 14.6 Intervention of middlemen in supply chain

type of suppliers and buyers are very few; a maximum number are strict in their commitment and conduct their business smoothly. Everyone should co-operate with each other for sustainable and long-term business.

- **Diversifications of value-added products**

Diversification of value-added products is creating new opportunity for shrimp business world. Initiatives should be taken for the preparation of value-added, marinated, and breaded products. Attractive packaging (Styrofoam packaging, box packaging, cane packaging, tray packaging) is another technique of value addition that may bring a positive result for the seafood business world.

- **Technology should be adapted for the utilization of byproducts**

Technology should be adapted for the extraction of byproducts from shrimp processing waste (i.e., head, shell, mussel, intestine, etc.). Utilization of byproducts in meaningful may lead to a potential industry in shrimp processing countries. The following is the calculation of processing loss for black tiger shrimp (*P. monodon*) in processing industries.

Type of loss		Loss %
Head loss (HOSO to HLSO)	=	35%
Shell loss (HLSO to PND)	=	17%
Freezing loss	=	02%
Others	=	01%
<b>Total loss</b>	=	<b>55%</b>

[Note: Little bit plus or minus is considerable]

- **Processing industries should be well certified**

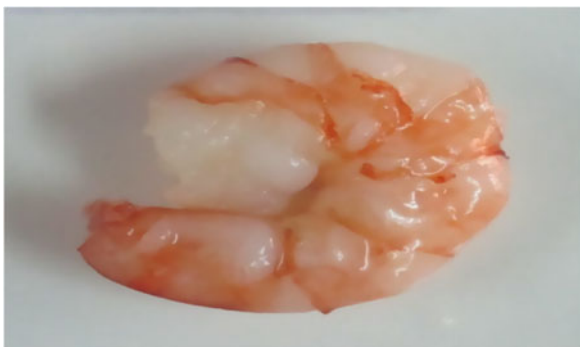
Suppliers all over the world should be well certified like BAP, GMP, ASC, MSC, IFS, BSCI, BRC, HACCP, GMO, etc. Certificates are not just a document; it's a judgment of product quality and trust of customers. Steps should be taken as early as possible to make suppliers well certified. At least a minimum level of certification should be maintained for every supplier; otherwise, it will be difficult for shrimp processing industries to compete with other seafood-producing countries around the world. Well-certified suppliers are the first priority of buyers, and well-certified suppliers can charge high price for their quality products.

- **Seafood research institute should be established**

Independent seafood research institute should be established for quality and variety development of exportable items. This type of research institute can help in developing new technology and variety of products, seafood monitoring, seafood processing, testing, quality assurance, business planning, market development, and training of stakeholders.

- **Need to protect wild stock of shrimp**

The export market has a great demand for wild shrimp, but wild stock of shrimp is decreasing day by day. It's an alarming issue that characteristics of wild shrimp are also changing. Deviation came from its physiology, behavior, color, texture, and taste. It may cause hybridization, climate change, environmental impacts, or others that need to be investigated immediately. Variation of wild and farmed

**Fig. 14.7** Wild shrimp (raw)**Fig. 14.8** Wild shrimp (cooked)**Fig. 14.9** Farmed shrimp (raw)

shrimp is also visible now. Color, texture, and taste are totally different in wild and farmed shrimp that may be affected negatively in the near future. See the following example (Figs. 14.7, 14.8, 14.9, and 14.10).

Finally, it can be concluded that the shrimp business around the world is a vital part of world food security as well as economy of the country. Everyone involved in this sector should be honest and strongly committed in their business deal. Personnel involved in this business should act in a win-win situation and must stop unfair

**Fig. 14.10** Farmed shrimp  
(cooked)



competition. Shrimp production is going for intensification. Intensive culture of shrimp emerges different types of diseases and promotes uses of antibiotics and chemicals that are a main concern of health hazard. On the other hand, emphasis should be given on organic shrimp production wild stock preservation. Suppliers should maintain their promised quality in their final products. Quality product, traceability, on-time shipment, strong commitment, etc. are the prerequisites of sustainable business. If we can maintain this shrimp business in a sustainable way, then it can play a vital role in food safety and food security in near future. Concentration should be given on shrimp farmers; otherwise, they will stop shrimp production or switch to agriculture instead of shrimp production.