Chapter 6
Pure Curd Supply Chain: An Indian Case on Modern Food Safety Management

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ABSTRACT

The modern food safety management comprises of ISO 22000:2005. It has modified the hazard analysis critical control point (HACCP) by embedding food safety management. It has created a standardized management system. The objective of current chapter is to endow a systematic approach for the ground level implementation of ISO 22000 in Indian pure curd supply chain management. The chapter is prepared utilizing combination of qualitative research and case study method. A case of Milsh Dairy Ltd. (MDL, organisation's name is disguised) was discussed to shed light on ISO 22000 features, comparative analysis between HACCP and ISO 22000. The research is limited to professional pure curd manufacturing sector. Authors have adopted the research methodology which can be applied to other sectors also.

INTRODUCTION

India is the largest milk producer in the world. More than 15 million milk producers sell their milk to 44,246 dairy cooperatives nationally. The collected milk is processed in 177 district co-operative unions and marketed by 22 state marketing federations cum dairies, ensuring a better milk quality (Animal and Dairy Tech Asia, 2013). The milk and milk products are customarily a crucial source of human nutrition. Milk products comprises of fresh milk, milk based products such as butter, butter milk of lassi, pure curd or yogurt, cheese, cottage cheese etc. The pure curd or yogurt is a crucial source of nourishment in India, and rest of world. Tamime et al. (2004), Valli et al. (2005) talked about consumption of yoghurt

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and it's by products showing continuously increasing trend. Roughly four out of every five fast food advertisements (79%) associated their product with fruit. Dairy products (53.3%) and sugared drinks (52.6%) included associations with fruit in more than half of their advertising. Common examples include fruit-flavoured yogurt products (Castonguay et al. 2013). Regular intake of pure curd produced by lactobacillus delbruceckii ssp. bulgaricus and streptococcus thermophilus looks effective both in prevention and treatment of various illnesses in human being like gastrointestinal, hypercholesterolemia, etc. (Saeed et al,2013).

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The chapter is started with introduction of topic. Then, elaborates HACCP practice, explains ISO 22000 and shed light on comparative analysis of HACCP and ISO22000. It is followed by a case of MDL and suggestion for ISO 22000 implementation process.

HAZARD CRITICAL CONTROL POINTS (HACCP)

The food sector faces numerous challenges concurrently, to supply better food quality and safe food at affordable prices in sufficient quantity, to cater greater demand from growth of population. There are three issues that stand out from a health angle like first, ensuring food safety from chemical or biological food contamination. The second is organic food preferred by consumers (Dangour et al., 2009). The third, impact of food offered general health of consumers (McCarthya et al., 2013). HACCP is a food safety management system (FSMS) that is recognized in the international food safety community as a worldwide guideline for controlling food borne safety hazards (Kafetzopoulos et al., 2013). The industrialised countries reported a progressing trouble of food borne illness (Flint et al., 2005; Anonymous, 2007). Ultimately all the efforts can support in achieving quality and safety.

The major landmark strategy in the food sector is introduction of HACCP (History of HACCP, 1959). The Pillsbury Company joined the programme as contractor to produce food for astronauts in 1959. HACCP was first presented 1971. It was based on three principles. HACCP-based ingredients and product specifications were completed in 1975. In 1985, interest in HACCP was restored, when a subcommittee of the Food Protection Committee of NASA issued a report on microbiological criteria. They recognised the advantages of HACCP over traditional quality procedures in food safety management, progressive food companies. The present status of HACCP i.e. Seven Principles are shown in figure 1.

In the figure 2, the six benefits pertaining to the HACCP are depicted.

The HACCP is a globally recognised as a FSMS. To introduce the HACCP to Indian processed food sector (PFS), monetary support in the form of grant is being offered by the Government of India (GOI). The Ministry of Food Processing of Industries (MOFPI, 2012) is offering financial incentives for the benefit of the PFS. To inspire the food processers for adoption of food safety and quality assurance mechanisms such as HACCP, good manufacturing process (GMP) and good hygienic practices (GHP). MOFPI makes efforts to organize food operators to face the global competition as per guidelines