7.1 INTRODUCTION:
The food-processing sector is crucial for the India's development in the era of
globalisation, to not only do well on the international front but also to achieve self
adequacy on the domestic front. It establishes a vital link between agriculture and
the consumer, hence ensuring the manifold growth of the economy. India is the
world's second largest producer of food next to China and holds the potential to
acquire the numero uno status with sustained efforts.

India ranks amongst the largest producers of milk, tea, fruits and vegetables in the world. But its share in the Rs 280 bn ($6.2 bn)
global trade in processed foods is less than 1%. Processed food consumption in
India has been estimated at Rs 4600 bn, however, processing still remains mostly
at primary level. The level of processing and value addition is significantly lower
than developed countries and several developing countries.

The quantity of processed food produced in the
country is under 2.2% as compared to countries such as Thailand, Malaysia and
Brazil where it is 65-75%. Similarly, the level of processing in India in the case of
fruits and vegetables is at a dismal 2% while in advanced countries like France
and the US it goes as high as 70-80%. There is tremendous amount of wastage
and value loss in respect of agricultural products, especially perishable products
(approx.$13 billion as per Dun & Bradstreet Study 2006) due to inadequate
processing, transportation, storage and handling facilities. The processed food
industry is set to grow at more than 10% per annum driven by consumer demand,
organised distribution and policy initiatives by the government.

The segments with the largest growth potential for
processing are dairy, fruits and vegetables, wine, confectionary and poultry.
Products that have growing demand in the export market are pickles, chutneys,
fruit pulp, canned fruits and vegetables, concentrated pulps and juices, dehydrated
vegetables and frozen fruits and vegetables along with processed animal based
products.

In recent times the government has rightly
recognised that it is essential to promote investment in the food processing sector
so as to ensure that it leads to increase in India's share in the global trade of
agricultural products, generates employment for large number of people,
increases the income of the farmers and contributes to the overall economy of the
country. The government on its part has initiated certain reforms to remove
legislative barriers and introduce facilitative measures to catalyse private sector
activity in food and agri-business sector. Some of the key measures undertaken by
the government recently include: amendment of Essential Commodities Act to
enable free trade and storage of commodities, amendment of the Agriculture
Produce Marketing Commission Act, rationalisation of food laws, implementation
of the National Horticulture Mission to increase horticulture production through
increased investments along the supply chain, removal of restrictions on milk
procurement and reduction in taxation of food products and above all the formulation of Food Safety and Standards Act 2006.

India’s fast growing consumer market is slated to include 500 million consumers by 2010. According to a recently published report by Research & Consultancy Outsourcing Services (RNCOS), the food processing industry is expected to treble from 6% to 20% with its share in global agro-trade expected to rise to 3%. Considering the significance of the issues facing the processed food industry with the focus on the taxation and regulatory issues.

7.2 FINDINGS AND CONCLUSIONS
The food processing industry in India is segmented into food grain, fruit/vegetable processing, milk and milk products, beverages, fish, poultry products, meat and meat products, aerated soft drinks, alcoholic beverages, breakfast cereals, bread, biscuits, confectioneries, malt protein and edible oils.

THE NATURE AND SCOPE OF THE FOOD PROCESSING INDUSTRIAL ACTIVITY IN KONKAN REGION

- The 31% of the food processing units has made an entry in last five years. It is clearly seen form the table that only 18% of food processing units were in operation for more than 25 years. Around 62% of the food possessing units has entered the business after the liberalisation of the Indian economy i.e. 1991.
- 66% of the food processing units are organised in the form of sole trading concern or individual proprietorship where the owner is in charge of all the decision making process. Whereas 12.5% of the units are Private Ltd Co. and only 1% of the companies are of Public Ltd nature. It is surprise to see that only 2% of the units are operating as co-operative concern.
- The majority (43.9%) of the food producers surveyed cited having a gross annual turnover of 1 lakh to 25 lakh. 20.7% of businesses reported a gross annual turnover of Above 100Cr and all others (35.4%) fell between a gross annual turnover of between 26 lakh and 100cr.
- The annual food processing capacity of 22.5% of the units is above 250MT. 9.5% of the units’ capacity is between 50 to 100MT. whereas 30% of the units produced 10 to 50 MT of processed foods. Ultimately around 59% of the food processing units’ production capacity lies between 1 to 50MT annually.
- The owner belongs to the age groups namely 31-50 years and above 51-60 years. At present 61% of them were above 31 years of age, which shows that the food processing units have well-experienced and matured owners. This shows that the young entrepreneurs take risk to enter in the new venture or business.
- In food processing units the largest number of 34.6% owners are educated up to graduate level, followed by S.S.C to the extent of 27.5%. Interestingly 13% of the owners have completed post-graduation. The small group includes 7.5% with commercial diploma holder. Collectively the table shows that 47.5% of the owners are graduate or post-graduate, which shows that the management level encompasses of well knowledgeable and competent owner in the food processing Industry of Konkan region.
It is notable that 80.5% of the questionnaires were completed specifically by the owners of the food processing units with the remaining proportion completed mainly (13.4%) by the manager with responsibility for food processing activities.

It is observed form above table 6.7 that 26.5% of respondents are in the food industry from last 5 years. While 21% have experience of around 5-10 years. Collectively 48.5% of the owners or managers are in the business of food processing 11-30 years.

The main specialty sectors who participated in the survey where the Fruit & vegetable processing (28.0%), Food grain/ pulse milling (16%) and Fish, poultry products (14%) producing sectors.

It is seen 29.5% of the units surveyed are in the processing of food item which leads to single finished product. Whereas majority of the food processing units (57%) have multi products. Only 13.5% of the units are in processing of by product.

The main specialty sectors who participated in the survey where the Fruit & vegetable processing (28.0%), Food grain/ pulse milling (16%) and Fish, poultry products (14%) producing sectors. Other sectors represented included those producing Bakery products, beverages and other categories (e.g. cereals, convenience foods, honey, jellies, organic produce and seaweed products). Examples of the type of food products produced by respondents included, chocolates, relishes, preserves, oysters, salmon, cured meat and fish, herbs, cakes, cookies, juices, beers, sausages, poultry, ice cream, honey and many other product categories.

THE DEGREE OF EFFICIENCY AND EFFECTIVENESS WITH WHICH FOOD PROCESSING UNITS CARRY OUT THEIR ACTIVITIES IN KONKAN REGION

In total, 87.8% of the total number of companies who responded identified serious burdens to their survival and growth (Table 6.11). Table 6.12 shows a breakdown of the identified burdens. Practically all businesses established identified burdens to the survival and growth of their business the breakdown of which is shown in Table. Key findings of the survey show that respondents ranked the following burdens as either primary or secondary, (1) making a profit: 26.4%; (2) distribution of products: 23.6%; (3) building a brand: 15.3%; building a production facility: 15.3%; compliance with food regulations: 15.3% (Table 6.13). Some respondents listed the costs of labour, insurance, laboratory testing and technical advice as impacting seriously on their profitability. Thus, there are many burdens which impact on the small artisan and traditional food producer, with the impact of compliance with food safety regulations rated as joint third alongside building a brand and building a production facility.

Other burdens identified included – cash flow for rapid growth, merchandising, growing the business in the face of price competition, publicity for new products, restricted space for expansion, availability infrastructure facilities and supply of raw material.

It was found that 69.6% of food businesses are members of representative bodies.
Almost 88.9% of food producers believe that an umbrella representative body for food producers in Konkan region would be of benefit to their business. Some respondents felt that an umbrella body would be beneficial only if it was designed from within the industry and if the body was independent of government agencies or any organisation that may have a different agenda to the needs of food producers.

The survey found that more than half (54.5%) of the food producers would be prepared to use the shared facilities of a food village.

It is observe that around 73.5% of the surveyed food processing units from Konkan region are adopting manual processing technique for processing of the food items.

It is detected that only 37.5% of the units have obtained the certification. While very large numbers of units are operating without having any kind of certification.

As seen from above the table only 35.5% of the units have certified their products while 64.5% of the companies don’t have any kind of certification.

Many of the units i.e. 70.5% have accepted the importance of protecting the environment and started to follow the environment standards. But still there are 29.5% of the units, although aware of environment protection due to some reasons fail to follow the standards of environment protection.

Though 70.5% of the units are following the environmental protection standard, only 33% of the units have gone for the evaluation of their processes by external agencies. Whereas 67% of the units have not invited any agency for the evaluation.

The food processing units has failed in the analysis of environment in which they are operating, which can lead to have a shocking effect on these units.

The food processing units have little idea or no idea about the likely impact of current / future political and economic trends on the respective industry. This shows that these units have to analysis the external environment of the business.

The highest percentage (60%) of producers obtain their information from their enforcement officers, over half of producers (56.3%) obtain this information from their colleagues in industry and half (50.0%) acquire this information from the FSA.

Majority of the food processing units had fall short in systematically seeking the customers’ views on their products.

It is seen that many of the units are in the market with their product without a brand name i.e. they might be selling their food product under general name.

40.85% of the units’ price their processed food product on the basis of cost incurred; whereas 24.395 of the units go for pricing based on competition. While 22.87% of the food processing units’ considers the demand market conditions when deciding the price their food item.

It was very shocking to note that 65.5% of the food processing units have failed to achieve their target sales.
- The food processing units who have faced the decline in their sales, 49.44% of the units reported that the sale has been decline due to external reasons. While 31.46% of the units are of the opinion that decline is due to internal reasons.
- 36.70% of the units have faced the problem of increase in cost of production 20% of the units have irregular supply of the raw material. While 14.68% of the units have agreed upon that the sale was decline due poor marketing efforts.
- The external factors which are responsible for the decline in sale as reported by 275 of the units are due to increase competition the food processing industry. While 22.12% and 20.67% are of the opinion that the decline is because of entry of new sellers and recession in demand respectively.
- 22.35% of the food processing units think that the nature of competition in the food processing industry is price competition. While 20.14 of units are of the belief that the competition is based on quality. Whereas 16.55% think the competition exist due the credit sales.
- 50.41% of the processors market their products at Village, Taluka and district level. While, 26.42% of the food units are distributing their products at national level. Whereas 23.17% of the units had entry in the International markets.
- Only 28.55 of the food processing units are engaged in the export of the processed food. While 71.5% of the units sell their products at local or national market. The units who are occupied in export 36.84% (table 6.59) export their products directly to the foreign countries, while 33.33% export through the local export agents. 24.56% of the units have seen to be exporting through government approved agents.
- 62% of the food processing units are of the attitude that the competitiveness of the Indian food processing industry is less, while 38% of them think the are well competent. When further inquired about the reasons of in competitiviteness, 23.12% of the units had reported that it due to weak export promotion.

THE DEFICIENCIES IN THE MANAGEMENT PROCESSES AMONG THE FOOD PROCESSING UNITS IN KONKAN REGION.

- The poor production management system at the food processing units. This may be due to the unawareness about the efficiency of the modern machinery or lack of production management Knowledge.
- The food processing units are hesitant about involving the outside agency for helping them to improve their production processes.
- Majority (72%) of the food processing units do not have any problems in the procurement of the raw material.
- 62.5% of the units face problems due to the variations in the quantity of the raw material.
- Around 38.5% of the food processing units face the problem of shortage of raw materials.
- Majority (73%) of the food processing units are facing the short supply of the power.
In relation to HACCP, it was reported that 26.45% of food producers have a HACCP plan in place.

92.45% of producers rated their knowledge of HACCP as excellent or good.

39.4% of producers felt that HACCP is too time consuming and 27.9% expressed the view that it costs too much to have HACCP in place.

Eighty percent (94%) of respondents identified that they use independent or private laboratories to carry out analyses, 3% use both their own in-house laboratory and independent or private laboratories and 3.0% use their own in-house laboratory only.

Many respondents had a waste management system (75.6%) in place.

Majority (47%) of food processing units require working capital based on seasonality as their production is based on seasons.

85.9% of producers cited that the food safety regulations protected their goodwill. 82.6% cited that the regulations helped them to achieve the standards set by the multiples, a notable finding as 62.2% of the producers supply their produce to supermarkets.

63.2% of respondents reported that they did not find any food regulations difficult to comply with however, 36.8% considered that the food safety regulations were not proportional to the risks associated with their products.

73.0% of producers considered that the food safety regulations facilitate the possible expansion of their business.

72.5% of producers rated their knowledge of the relevant food legislation as either excellent or good.

56% of the food processing units had taken the benefit of subsidies. While still near to half of the units remain detriment.

Mere 34% of the units are able to get the loan facilities at low rate of interest.

The entrepreneurs have to face many hurdles in getting the license to start food processing Unit.

73.50% of the food processing units are aware of the changed government policies form the X plan onwards.

60.50% of the units are aware of the government incentives to the food processing industry. Those aware of these incentives, mere 61.16% of the units have taken the benefits of these incentives.

It is very surprising to see that only a few i.e.28.50% of the food processing units were aware of the subsidy schemes of the government.

Though 22.64% of the food processing units has reported that the market for their product is expanding many times they are faced with competitive nature of the market. Whereas 7.25% of the units have revealed that the market for their product is on decline or contracting.

22% and 23% of the units awaiting the opportunity to get in joint ventures or get in foreign collaboration repetitively. Whereas 18% of the units are ready to be converted into franchises. 9.5% of the units are geared up to be getting merged.

The processed dairy and milk products are on the higher side with 100% of the possessed food purchased; this food item is of daily use. Followed by edible oil/fats i.e.78.80%. Roughly about 70% of the consumers are
purchasing aerated water/soft drinks & juices and beer/alcoholic beverages.

- Majority of the consumers purchased their food item on weekly basis, 14% of the consumers purchase the food items twice a week and 16.4% of the consumers purchase it on monthly basis.
- 39% of the respondents reported to have been using processed food products since more than 2 years. Whereas 26% and 16.4% consumers are using the processed food products for last 2 years and 1 year respectively. Collectively it can be infer that 81.2% of the consumer consuming the processed food products more than one year.
- Nutrition has been ranked number 1 followed by ready to cook (78.23%), ready to eat and taste with 72.66% and 72.79% respectively.
- Majority of the consumers (76.67%) are skeptical about the food safety of the processed food products. While many of them think that they find little variety for to choose from. Whereas 67.50% of them think that the price of the processed food items are too high.
- Majority of the consumers are ready to more that Rs.10 for the taste/quality and brand name of the product.
- While for ease of preparation the consumer is ready to Rs.8-10 more for the product. Majority of the consumers are ready to pay Rs 1-7 more for the products with Low cholesterol, Low-fat and Low sodium.
- Collectively it is seen that the consumer are ready to pay Rs. 1-7 for the proceeded food products.
- In case of processed meat and poultry 77.78% of customers have come across confusion.
- 72.22% have faced confusion while selecting the dairy and milk products.
- While 69.44% of the consumers are confused when purchasing the processed sea food items.
- Only 27.78% of the consumers are seen to confuse while selecting the beer/alcoholic products which shows that these buyers have strong pre-intentions or pre decided about the brand to purchase.
- 64.25% and 61.11% of the consumers are seen to be confused deciding on processed food grains/pulses and processed vegetables & fruits respectively.
- 87.46% consumers get confused because of too many brands available in the market as well as too to many variants of a single food product.
- 53% of customers are confused about the quality of the products.

7.3 FOOD PROCESSING INDUSTRIES—A SWOT ANALYSIS

Every organisation is apart of an industry. Almost all organisations face competition either directly or indirectly. Thus, the industry and competition are vital considerations in making a strategic choice. The industry provides the context in which an organisation operates while competitors struggle for the same set of customers by offering more or less identical products. It is quite obvious that strategic choice cannot be made by an organisation unless the industry a competition have been analysed. Apart from the external forces that are present in
industry and competitor analysis, it is useful to look inward and perform a SWOT
analysis.

The external environment includes all the factors outside the organisation which provide opportunities or pose threats to the organisation. The internal environment refers to all the factors within a organisation. Which impart strengths or causes weakness of a strategic nature.

The environment in which an organisation exists can, therefore, be described in terms of the opportunities and threats operating in the external environment apart from the strengths and weaknesses existing in the internal environment. The four environmental influences could be described as follows:

1. An **opportunity** is a favourable condition in the organisations environment which enables it to consolidate and strengthen it position. An example of an opportunity is a growing demand for the products or services that a company provides.
2. A **threat** is an unfavourable condition in the organisations environment which creates a risk for, or causes damage to, the organisation. An example of a threat is the emergence of strong new competitors who are likely to offer stiff competition to the existing companies in an industry.
3. A **strength** is an inherent capacity which an organisation can use to gain strategic advantage. An example of strength is superior research and development skills which can be used for new product development so that the company can gain a strategic advantage.
4. A **weakness** is an inherent limitation or constraint which creates strategic disadvantages. An example of a weakness is over dependence on a single product line, which is potentially risky for company in times of crisis.

An understanding of the external environment, in terms of opportunities and threats, and the internal environment, in terms of strengths and weaknesses is crucial for the existence, growth, and profitability of any organisation. A systematic approach to understanding the environment is the SWOT analysis. Business firms undertake SWOT analysis to understand their external and internal environments. SWOT, which is acronym for strengths, weaknesses, opportunities and threats, is also known as WOTS-UP or TOWS analysis. Through such an analysis, the strengths and weaknesses existing with an organisation can be matched with the opportunities and threats operating in the environment so that an effective strategy can be formulated. An effective organisational strategy therefore is one that capitalizes on the opportunities through the use of strengths and neutralizes the threats by minimising the impact of weaknesses. The following paragraph describes some of the strengths, weaknesses, opportunities and threats of food processing industry in India.

**Strengths**
- Kokan has diverse agro-climatic conditions; it has a wide-ranging and large raw material base suitable for food processing industries.
- Presently a very small percentage of these are processed into value added products.
Rapid urbanization, increased literacy and rising per capita income, have all caused rapid growth and changes in demand patterns, leading to tremendous new opportunities for exploiting the large latent market.

An average Indian spends about 50% of household expenditure on food items.

Demand for processed/convenience food is constantly on the rise.

Kokan’s comparatively cheaper workforce can be effectively utilized to setup large number of low cost production bases for domestic and export markets.

Liberalized overall policy regime, with specific incentives for high priority food processing sector, provides a very conducive environment for investments and exports in the Konkan region.

Weaknesses

- Processing level presently being extremely low, the wastage levels are very high resulting in colossal wastage of national wealth running in thousands of crores.
- Value addition to the raw produce in the Konkan region is very low.
- The small scale and unorganized food processing units today account for 75% of the total industry having only local presence without much access to knowledge, poor storage infrastructure, inefficient and costly transportation, non availability of standard technology and marketing network.
- Despite the existence of a strong and wide network of R&D institutions (CSIR labs, ICAR institutions, ICMR Establishments, Universities and Private institutions), their linkage with the users like farmers and entrepreneurs in the Konkan region is not well established.

Domestic markets scenario

- Infrastructure for marketing of perishables
  - Primary grading/collection centers - non existent
  - Warehousing and cold storage - inadequate
  - Cold chain - non existent
  - Quality certification system - non existent
  - Transportation for perishables - non existent
  - Rural markets - complete lack of infrastructure
  - Wholesale markets - in government control, lack modern facilities
  - Private / direct markets - not permitted

Opportunities

- The growth potential of this sector is enormous and it is expected that food production will double in the next ten years and consumption of value added products will grow at fast pace.
- Economic liberalization and rising consumer prosperity is opening up new opportunities for diversification in food processing sector.
- Very good investment opportunities exist in many areas of food processing industries, the important ones being: fruit & vegetable processing, packaged, convenience food and drinks, milk products etc.
• India is already a major producer of food (first in cereals, livestock population, milk and second in fruits and vegetables), producing over 600 million tons of food products, and in case the immense untapped potential of growth is achieved, the country can emerge as the largest producer of major food items.
• Popular foods like wheat flour and biscuits, packaged milk, freeze poultry and soft drinks are other areas where a strong growth is forecasted.

Threats
• The major threat in the food-processing sector is lack of awareness of the importance of indigenous products due to lack of knowledge.
• Small and marginal entrepreneurs are facing threat from big multinational brands.
• The marketing of their products also faces threats due to inefficient marketing network.

7.4 TESTING OF THE HYPOTHESIS OF THE STUDY

On the basis of the data analysis and interpretation carried out in the previous chapter the following hypotheses are rejected or accepted.

1. Process of liberalization and the growth and development of the food processing industry in Konkan region are independent.
   • **Hypothesis rejected:** The 31% of the food processing units has made an entry in last five years. It is clearly seen form the table that only 18% of food processing units were in operation for more than 25 years. Around 62% of the food possessing units has entered the business after the liberalisation of the Indian economy i.e. 1991.

2. The entry of MNC's in food processing sector and the food processing units in Konkan region are independent
   • **Hypothesis rejected:** The Effect of MNC’s on the Food Processing Industry: The out come of the open ended question is described below which represents the opinion about the effect of MNC’s on food processing industry which was solicited form the food processors. Care has been taken to avoid the repeated opinions.
     • MNC’s is required & necessary for better performance of food processing industries.
     • MNC’s will definitely increase the market of the food processing industry.
     • MNC’s will facilitate the growth of food industries
     • MNC’s will assist upgradation of technology & price competitive product

3. Various infrastructural developments under taken by the Government and growth in the food processing industry in Konkan Region are independent.
Hypothesis rejected: Majority i.e. 62% of the food processing units are satisfied with the policies of the government of India towards the food processing units, whereas 38% of the food producers are not happy with government policies.

7.5 FUTURE PROSPECTS FOR THE FOOD PROCESSING INDUSTRY, IN THE KONKAN REGION.

The outcome of the open ended question is described below which represents the opinion about the opportunities for the food processing industry which were seek form the food processors. Care has been taken to avoid the repeated opinions.

- Most of the raw material is being wasted as it is perishable so there are lot opportunities for processing of this material.
- The Food Processing Industry will provide better employment opportunities in rural area
- Opportunity for Export of the processed food due to globalisation.
- Opportunity for Foreign collaboration.
- Opportunity for export of mango pulp & other product
- Opportunity for export of mango pulp & kokam sarbat.
- Opportunity for export of cashew kernel
- Opportunity for development of new product range for domestic market by value addition.
- Demand for high value product is on rise.
- Greater opportunities as increase in the consumption of packaged foods
- All fruit is not sale direct to market so fruit is use for juice jam making therefore food processing industry is good option.
- Lot of opportunity for Processing of kokam & awala.
- To improve product quality to global standard
- Huge demand for processed food from departmental stores& malls and is increasing day by day as shelf space is increasing with so many malls.

Food Processing

The growth of food processing sector has nearly doubled to 13.7 per cent during the last four years, according to the Minister of State for Food Processing Industries added that India has set a target of growing at 20 per cent by 2015. A dominant segment of the food industry, food processing is estimated to be worth US$ 70 billion with a 32 per cent
share. It comprises agriculture, horticulture, animal husbandries, and plantation. Experts estimate the industry GDP at 6-8 per cent with value addition of food products to increase from 8 per cent to 35 per cent by the end of 2025.

According to the 'India Food Report 2008', investments to the tune of US$ 23.5 billion are in the pipeline to be made in the food processing industry over the next three years. The opportunity for growth is huge when seen against the fact that while a mere 1.3 per cent of food is processed in India, nearly 80 per cent of food is processed in the developed world.

Significantly, processed food exports have increased from US$ 6.98 billion in 2002-03 to US$ 20.51 billion in 2006-07, recording a whopping 193.83 per cent growth rate. To realise India's potential in this industry, the Government has set an investment target of US$ 25.07 billion by 2015 to double India's share in global food trade from 1.6 per cent to 3 per cent, increase processing of perishable food from 6 per cent to 20 per cent and value addition from 20 per cent to 35 per cent.

**Food Retail**

The domestic food retailing market is estimated to be worth US$ 6 billion with large sections of the retail industry getting organized. Changing lifestyles, increased spending powers, disposable incomes and changing consumer tastes are soon expected to change the face of the food retail market in India. Interestingly, happy Indians are buying chocolates like never before - chocolate sales grew 15 per cent, to US$ 300.82 million (36,000 tonnes) in 2007.

**Dairy sector**

According Dairy India 2007 estimates, the current size of the Indian dairy sector is US$ 62.67 billion and has been growing at a rate of 5 per cent a year. With the domestic dairy sector slated to cross US$ 125.34 billion in revenues by 2011, FMCG majors are now trying to develop niche categories to milk in the money. Significantly, Coca-Cola and PepsiCo
have already announced plans to enter the milk-based beverage segment in India. Probiotic dairy products maker Yakult Danone India, having invested US$ 34.09 million in setting up a dairy product manufacturing facility in Haryana, will pump in an additional US$ 25.05 million over the next 3-4 years to expand its presence and market its product 'Yakult'.

**Fruit juices and drinks**

The US$ 1.80 billion carbonated drinks categories are expected to face the heat of the rising competition this summer from categories falling under the health umbrella. At present, these categories are juice and juice-based drinks, energy and sports drinks, malted beverages, probiotic drinks and bottled water.

The fruit drinks segment is ripe for plucking. At US$ 300.67 million, the juice and juice drink category is among the fastest growing segments of the approximately US$ 2.38 billion packaged beverages category. While fruit drinks as a category is growing at 18-20 per cent, carbonated soft drinks are growing at 6-8 per cent.

**Wine and Beer**

All eyes are on the Indian wine market which is on the threshold of its first major milestone - crossing the one million cases mark in 2008. In the next 50 years, India's growing wine industry is likely to challenge the supremacy of traditional wine-making countries, according to a report on the state of the industry titled “The Future of Wine”. The market for wine in India is growing at over 25 per cent per year. Most global wine majors have already set up shops in India:

- E&J Gallo, the US wine major, has a joint venture with India's second largest spirit major Radico Khaitan to distribute the Gallo brand of wines in India.
- Moet Hennessy and Vuove Cliquot, French champagne and wine majors, have been doing brisk business in India for about a decade.
- Diageo, one of the leading wine & spirit company, has brought in its brand of wines namely Nilaya.
- Seagram, now renamed Pernod Ricard India, has set up a winery at Nashik to produce Nine Hills.
However, domestic companies control 80 per cent of the market and are way ahead of the MNCs, producing nearly eight lac cases of wine in a year. And, while Bangalore, Chandigarh, Bombay are reporting high growth in consumption, Nashik, the capital of Indian wines, registered a 100 per cent rise. The beer market in India is pegged around 12 million hectolitres and is expected to double in the next five years or so. While foreign beers like Carlsberg, Barons and Budweiser are already being sold in Indian outlets, Heineken, Tiger and Budweiser will soon reach the Indian market. One of the toughest to break among alcoholic segments this market continues to be dominated by two main players - Kingfisher and SABMiller.

**Functional foods**

The good growth in the Indian economy, coupled with a strong desire among the Indian consumers to maintain a healthy lifestyle and the growing awareness of functional ingredients such as herbs, minerals, vitamins, omega fatty acids and probiotics is driving the functional foods and beverages market, according to research and analyst firm Frost & Sullivan. Functional foods are also likely to witness an expanding consumer base due to their specific health benefits, according to a report on 'Indian Functional Foods and Beverage markets'. The report also finds that the market earned revenues of over US$ 185 million in 2007 and estimates this to reach US$ 1,161 million in 2012.

**Food chains and Restaurants**

India currently has more than 900 fast food restaurants and coffee joints, and is likely to see the addition of at least 400 restaurants, fast food outlets and coffee joints:

- Yum has around 134 Pizza Hut restaurants in India and plans to scale up to 175 by 2010.
- McDonald's has about 123 restaurants in India and aims at 220 outlets by end-2008, investing about US$ 125.28 million in the next 2-3 years
- Pizza Hut serves over 300,000 customers every week in India, runs 30 KFC outlets and intends to add 15-20 new restaurants
• Domino's Pizza India will invest US$ 55.12 - 57.62 million in India in the next three years to expand its retail chain and manufacturing capacities
• Pizza delivery and dine-in is a US$ 117.76 million business and is growing at the rate of 35 per cent per annum
• Cafe Coffee Day, a coffee chain owned by the Bangalore-based Amalgamated Coffee Bean Trading, has nearly 440 stores and aims at 700 outlets at an average investment of US$ 62,640 - 75,169 per store

Foreign Direct Investment (FDI)
Investments in the food industry have been buoyant as investors both global and domestic see potential for growth in this sector. The food industry segment has proved to be an attractive sector based on its size, growth, penetration levels and levels of organization. The Indian food processing market has seen impressive growths holding promise for the industry and attractive investments in the industry.
The key factors below have been instrumental in driving growth and investment for the Indian food industry:

• Effective distribution network and supply chain
• Product range that is customized to suit local market requirements
• Superior processing technology
• Brand building and marketing

Government Initiatives
The Government has declared food processing a priority introducing a number of progressive measures to set up and modernize food processing units, create infrastructure, support research and development and human resource development:

• The national policy aims to increase the level of food processing from 2 per cent to 10 per cent in 2010 and to 25 per cent in 2025
• The level of institutional credit to be provided by banks and Financial Institutions has been increased from US$ 17.41 billion during 2003-04 to about US$ 23.76 billion in 2005-06
• Full repatriation of profits and capital is allowed
• Automatic approvals for foreign investment up to 100 per cent, except in few cases, and also technology transfer
• The government has decided to give a boost to research and development in this sector with its decision to set up the National Institute for Food Technology and Management in collaboration with Cornell University of the US.
• Zero import duty on capital goods and raw material for 100 per cent export-oriented units. Custom duty on packaging machines reduced. Central excise duty on meat, poultry and fish reduced to 8 per cent
• Income tax rebate allowed (100 per cent of profits for 5 years and 25 per cent of profits for the next 5 years) for new industries in fruits and vegetables besides institutional and credit support.

On the Government side, there is also a renewed enthusiasm to popularise organic food cultivation since exports of organic food have grown to US$ 75.16 million crore over the past one year from US$ 25.05 million just two years ago.

In a bid to boost the food sector, the Government is also developing 30 mega food parks which would cover the entire food processing cycle 'from the farm gate to the retail outlet'. While the Government would provide a grant of US$ 12.53 million for each one, private investment to the tune of US$ 75.21 million would be encouraged in these parks. The first five such parks would be set up in Punjab, Maharashtra, Andhra Pradesh, Jharkhand and the North-East region in the first phases.

7.6 SUGGESTIONS AND RECOMMENDATIONS

In Kokan region, minor fruits grown include Kokam, Jackfruit, Karonda, and Jamun and the cultivation was by and large found to be concentrated in districts of Ratnagiri, Sindhudurg and Raigad. It was observed that, more number of villages (57.15%) was connected by Kaccha road and no fax facility in any of the villages. The general topography was found to be hilly terrain and therefore infrastructure facilities are not adequate in the region.

**Finding:** Majority of the consumers (76.67%) are skeptical about the food safety of the processed food products.

**Suggestion:** Food safety, taste and quality cannot be compromised especially when we want consumers to trust processed foods and increase consumption. The Industry associations must develop an action plan on how to improve the food safety.
To recapitulate, food products form an important component of consumers’ basket. Food is important for material pleasure as well as for sustained healthy life. Poor food quality affects one’s health, and, at times, the effects could be fatal. Therefore, maintaining high food quality is very important. This fact has been recognized internationally by organizations such as CAC and WTO. Even from producers’ point of view, maintaining high quality can be viewed as a competitive strategy to stay ahead of others in the marketplace. With the signing of WTO agreement on SPS measures, this has become even more evident for export competitiveness. In this context, employing HACCP, a management system for food safety, becomes essential for improving quality of domestically produced food products, and stay competitive both in the domestic and export market. At this time, only a handful of food processing companies are employing HACCP in their plants. Most of them are taking help of foreign consultants to set up their HACCP plans, and, their HACCP plans are also being certified by foreign agencies. Therefore, there is a need to understand the HACCP system, indigenise it, and develop HACCP plans to suit the diverse range of domestically produced food products. Also, majority of the food processing firms need to be educated about HACCP certification, and its potential as a competitive strategy. The historical development in food safety issues and its culmination in HACCP system provides a milieu in which food processing firms will have to operate. The actual description of the system shows that it is a practical, science-based, and logical system; once it is in place it is not difficult to maintain.

It is recognised worldwide that a strong and dynamic food processing industry is important for diversification and commercialisation of agriculture. However, this is not possible unless and until we have conducive regulatory regime in place. Time is ripe now to review various outdated rules, regulations and laws so that the sector can grow in leaps and bounds.

As already stated above, certain provisions of the new Act, corresponding provisions in the PFA Act/Rules need to be re-drafted, keeping in mind the role of industry in ensuring food safety through Public Private Partnership and ensuring safety and quality in food production given the ground realities in India.

While the industry agree with the objectives and the underlying spirit, espoused in the new legislation, i.e. Food Safety & Standards Act, 2006, to ensure that Food product needs to be considered not only an agricultural and/or trade commodity, but also a public health issue. Therefore, food safety, hygiene and quality have to be seen as an essential public health function. Food safety must be integrated along the entire food chain, from farm to table, with the four sectors government, industry, retail Trade and consumers sharing responsibility. It is necessary that food safety forms an essential component of health-based nutrition policies and nutrition education.

Some of the hurdles, unfortunately arise out of the existing Food Laws, which had been framed to achieve food safety, hygiene and quality standards as well as improvements in these important areas, but are being implemented under a regime of persecution and prosecution of the food product manufacturers by way of flawed enforcement based on interpretations/misinterpretations, ignoring of the
underlying spirit and perceptions that had gone into formulation of these Food Laws.

On the other hand, there are hardships and confusions arising out of multiplicity of Food Laws with many instances of overlapping provisions and even in implementation, besides stringent and impractical amendments in PFA Rules.

While the Food processing Industry welcomed reforms and changes in food laws, especially introduction of the integrated legislation in the form of Food Safety & Standards Act, 2006, as also harmonization of food laws with international regulations and mainly, the Codex Alimentarius, however, the governmental authorities need to keep in view various factors as are prevalent in India, including manufacturing process, quality of raw materials/inputs, technology, equipment, ingredients used and, climatic conditions as compared to hi-tech technology in the manufacturing process, machinery, cold chain system from plant to retail outlets packaging(including high standard of printing facilities for food labeling etc), preservation of agro-products and other inputs/ingredients and etc available in the developed countries, especially at the end stage of the movement of food products, many of which are perishable at varied time frame (days and months) in the shops across the country, most of which are just roadside hawkers and tiny shops without any refrigerating facilities; or any other means for safe storage and preservation of food products sold to the consumers.

Therefore, it is recommended that many of the changes and amendments, introduced should, in the first instance, be introduced at various stages of creation of awareness, education of industry, trade as well the enforcing agencies, and more importantly consumers, keeping in view ground realities in agricultural production, storage, transportation, preservation facilities available in our country for food products.

**Finding:**
1. Problem in getting finance at low interest rate.
2. Govt. tax in the state of Maharashtra is more comparing to other state.

**Suggestion:** The sales tax and market cess on food processing industries may be removed up to the time of formation of critical mass. The duties and taxes on packing material used by food processing industry may be relaxed. The government may subsidise pack houses, packaging material, pre-cooling units, and small cold storage units for some time. Poultry sector may be treated continuously on par with agriculture for electricity tariff and taxes. The purchase tax for fresh fruit bunches as well as sales tax may be exempted for a few years till the oil palm area is stabilized.

The Value Added Tax has been put in place from April 1, 2005. VAT avoids cost-cascading effect and this is the single most important factor that has found favour in India. The study recommended that uniform VAT rate should be introduced in the case of processed foods. The Empowered Committee of State
Finance Ministers' should take up the cases where deviations are present, with respective states. Anomalous situation exists with regard to items such as instant mixes, tea, ketchups, sauces, coffee powder, ice, branded bread and processed and branded salt, meat products etc. For example, though a large number of food products are charged VAT @ 4%, the states of Bihar, Chattisgarh, Goa, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh, continue to charge VAT @ 12.5% on biscuits - an item of mass consumption. All the states should uniformly align the VAT on biscuits with the 4% rate generally fixed for food products. The ultimate objective of bringing VAT is to facilitate seamless movement of goods without any hindrances making India as 'One Common market'.

There is an urgent need for a massive cut in commodity taxes, especially on demand elastic items to stimulate demand in the economy. Tax cuts would provide the much-needed boost to India's manufacturing sector. Countervailing duty (CVD) of 4% has now been imposed on almost all imports. This has been made applicable to all inputs of the processed food industry like tomato paste, packaging materials and other raw materials. Since finished products are exempt, it is therefore necessary to include inputs imported for food processing industry in the exempted category. It is also recommended proper classification of items in the food products categories like ready-to-eat packaged foods, instant food mixes like dosa and idli, instant pre-mix used in tea, coffee vending machines, sauces, ketchup, tea, coffee, and skimmed milk powder. It is necessary to issue a clarification/ notification confirming that all intermediate excisable products arising during the manufacture of exempted final products will also be exempted

Findings:
1. Supply of raw material is inadequate.
2. Uncertain raw material prices are creating the difficulty for procurement of raw material.

Suggestion: Unprocessed foods are susceptible to spoilage by biochemical processes, microbial attack and infestation. The right post harvest practices such as good processing techniques, and proper packaging, transportation and storage (of even processed foods) can play a significant role in reducing spoilage and extending shelf life. The challenges in processing lie in retaining the nutritional value, flavour, aroma, and texture of foods, and presenting them in near natural form with added conveniences. However, such qualities cannot be readily quantified and correlated with physico-chemical parameters, sensory evaluations providing the only means of benchmarking. Besides, processed foods
need to be offered to the consumer in hygienic and attractive packaging, and at low incremental costs.

The challenges for the food preservation, distribution and processing sectors are diverse and demanding, and need to be addressed on several fronts to derive maximum market benefits. Presently, the organizations addressing the educational and R & D requirements are too few, and there is a pressing need for supplementing their efforts. In the emerging scenario, the Food Engineering professional needs to develop sufficient awareness and appreciation of the relevant principles of life sciences, and physical sciences, as well as of a wide variety of other topics including: nutrition, preservation and storage techniques, processing unit operations, bio-processing, waste management, distribution and supply chain management, food laws and regulations and so on. Besides, the professional needs to develop an appreciation of R&D and innovation in critical technology areas such as: newer or novel process development in preservation and storage techniques, rheology, colloids and dispersal systems, packaging-polymer and composites, sensors for detection and process control, bioprocess engineering, and so on.

**Findings:** 1. **Distribution of processed food is a problem due to lack of proper Transport facilities.**
2. **Protection of finished product is a problem due to inaccessibility to cold storage facilities.**
3. **Need of Warehousing and Cold chain**
4. **Irregular electricity creates many problems in smooth functioning of the unit.**

**Suggestion:** Expert consultant committee may be formed comprising of specialists from food technology and management to provide ready assistance in terms of free consultancy for promising entrepreneurs and advising state government. One incubator (Incubator is one place where the prospective entrepreneurs in food processing can get access to information on the opportunities, availability of infrastructural facilities, incentives etc., in the Konkan region at one place. This will facilitate the investors to plan easily and take investment decisions) may be provided to advise on food processing ventures in the state. Some large aseptic packaging units may be encouraged to be set up in the Konkan region. A radiation technology plant may be established by the government to cater to the needs of food processors (for disinfection and extension of shelf life) and popularization of the technology. The power supply to cold storage units may be priced on par with the agriculturists. Some Industrial Training Institutes may be set up to give training courses on service and repairs to food processing machinery. Private sector investments may be encouraged in small precooling units, medium to small cold storages having multi-product, multichamber facilities and also built in pre-cooling, high humidity and controlled/ modified atmosphere, ripening chamber and display cabinets.

The study clearly recommended without a strong and dependable cold chain, food processing couldn't survive and
grow. The government should provide a 10-year tax holiday for cold chain infrastructure under section 80-IA of the Income-Tax Act for undertakings involved in complete supply chain. It is important to note that cold chain infrastructure is not inviting the much needed investment as the existing units engaged in the manufacturing sector prefer to focus on the core competencies instead of diversifying.

The investment in cold chain has become important particularly in the context that new players are entering in organised retail and existing players are on an expansion spree. The intention in the case of big players is to go for complete supply chain - from farm to fork. This would need huge investments in infrastructure for storage facilities, transportation etc. The appropriate fiscal stimulus would encourage investment in cold chain infrastructure in the country.

**Findings: Advance technology is not available in rural area.**

**Suggestion:** The structure of food processing industry reflects that food production is mainly constrained due to lack of productivity augmenting technologies as the major quantity of food products are being produced in the unorganized sector, where resource utilization is very limited. The organized food processing units are also facing various kinds of challenges which have emerged due to opening up of the economy in the recent decade. To meet the emerging challenges, there is an urgent need to bring efficiency in production process through either maximizing the output or minimizing the cost. Therefore, technology is the key for improvement in growth and efficiency in food processing sector. Empirical evidences on contribution of technology to growth of food processing industry at disaggregated level are scarce. However, the evidences from food industry as a whole during different period of time indicate varied contribution of technology to growth of food processing industry. Policy makers and food processors may use these findings to improve productivity and efficiency in the food processing industry. And to workout the optimal levels of input mix, to rationalize the process of acquiring and usage of these inputs, to design the proper policy framework to address the identified problems in the food processing sector. Results indicate that the industry needs to modernize its production system to improve the capacity utilization of factor inputs mainly of raw material, capital and energy. As raw material constitutes about 85 percent of production cost, proper methods of sourcing quality raw material for food production should be adopted to shorten the supply chain in food processing industry. This initially requires reforms in domestic food and agriculture markets to strengthen backward linkage of food processors with the farmers and provision of direct procurement.

**Findings: 1. Need of Industrial Training Institutes**

**2. No technical assistance is provided from Government.**

**Suggestion:** Research and development is the need of the hour. In order to compete in the world market and to reduce cost of operation, there is a need to develop new ways of working and use of advanced technologies in food industry.
The food-processing sector has viewed that the low research intensity is mainly owing to inadequate expenditure. While the expenditure figure on R&D is close to 3% in the case of Japan and US and between 2 and 2.5% in France and Germany respectively, it stands at less than 1% in India. It is suggested to encourage R&D in food processing sector. Weighted deduction of 150% with regard to R&D expenditure should be made available to food processing sector as well Customs Duty exemption should be given to manufacturing establishments who have R&D facilities and invest in R&D activities/infrastructure. Government should set up a nodal agency to act as a facilitator for setting up R&D activity, which may be required by existing/ prospective entrepreneurs. R&D activity may be considered as the priority sector lending. Government should make necessary efforts to bring renowned inventions related to agro-food sector developed by other countries to India and the concerned institutes should improvise on them. Large- scale publicity may be given to use of processed fruits, vegetables, meat, chicken, fish etc to educate the general public. The university may intensify research on suitable varieties for processing and machinery. There is also a need to develop technology to cater to the needs of small and tiny units in the unorganized sector. The universities may undertake demand driven research to promote food processing industry in the state. The post-harvest technology department of the university must be strengthened with required personnel and funds to develop and demonstrate the technologies. The research institutions must plan to supply organic seeds. Crop/product specific strategies must be developed. Marketing plans may be evolved to encourage food processing products manufactured within the state covering the recently emerging super markets, institutional sales, DWCRA bazaars, international market etc. The government may take up a scheme to educate and promote use of post harvest equipment among the farmers. The state government may establish food processing training institutes at least one per each district.