Chapter – 1

Introduction
CHAPTER 1

INTRODUCTION

1.1 Agriculture in India

Agriculture is the backbone of the Indian economy and accounts for the largest chunk of employment and gross domestic product and a source of raw materials for industry. Trade in agricultural products is playing an important role in promoting economic development of developing countries. The export of agricultural products is accelerating of capital goods, technologies, manufactured products and other essential economic commodities for the sustainable economic growth of developing countries.

Many developing countries have a comparative advantage in the production of agricultural commodities and export of these commodities is the main source of foreign exchange earnings. In an export led growth model of trade it would be to the advantage of the developing countries, to specialize in production of those products where they have comparative advantage and to use the surplus production to earn valuable foreign exchange. Such a policy will lead to the use of trade as an engine of growth as well as in ensuring rational allocation of agricultural resources.

India has a strong comparative advantage because of its very diverse agro-climatic condition ranging from arid to heavy rainfall areas. Most of the areas have well distributed rainfall, sunshine and temperature conducive to the growth of a very wide range of tropical, sub-tropical, and temperate fruits, vegetables and flowers. There are long uninterrupted Himalayan hilly region suitable for temperate and nut crops like apples, pears, peaches and walnuts. It then gradually descends, forming sub-mountain regions and plains.
There are also vast fertile plains and savannas suitable for a wide variety of crops. Further India’s geographical situation gives it the unique advantage of being at the center of most of the prosperous economies of the eastern world i.e., middle east in west and far east including countries like Iran, Iraq, Japan, Singapore, Thailand, Malaysia, Korea etc., This gives India the comparative advantages for linking these markets to the third country export center. With its agricultural predominance, India occupies a special position in developing world and should take a leading role in creating a favorable atmosphere for putting across the points of negotiation in favor of developing countries at the WTO negotiation. Agriculture provides direct livelihood to 64 per cent of the labor force in India. The share of agriculture and allied sectors in the Gross Domestic Product (GDP) from 16.8 per cent in 2007-08 dropped to 15.7 per cent in 2008-09 and then to 14.6 per cent in 2009-10. It further dropped to 14.2 per cent in 2010-11 before reaching 13.9 per cent in 2011-12. The decline is may be on account of comparatively higher growth in GDP of non-agriculture sectors.

Table – 1.1 : The Share of Agriculture and Allied Sectors in GDP
(Rs. Crore)

<table>
<thead>
<tr>
<th>Year</th>
<th>2007-08</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP of Agriculture and Allied Sectors</td>
<td>655080</td>
<td>654118</td>
<td>656975</td>
<td>709103</td>
<td>727161</td>
</tr>
<tr>
<td>Per cent to total GDP</td>
<td>16.8</td>
<td>15.7</td>
<td>14.6</td>
<td>14.2</td>
<td>13.9</td>
</tr>
</tbody>
</table>

Source: Central Statistical Organization, Ministry of Statistics and Programme Implementation, Govt. of India. (2012)

Growth (over the previous year) in the total GDP out of total GDP the share of Agriculture and Allied Sector from 2007-08 to 2011-12 is given in the below table:
Table – 1.2 : Growth in the total GDP and in the GDP of Agriculture

<table>
<thead>
<tr>
<th>Period</th>
<th>Total Economy (%)</th>
<th>Agriculture &amp; Allied Sectors (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>9.2</td>
<td>5.8</td>
</tr>
<tr>
<td>2008-09</td>
<td>6.7</td>
<td>0.1</td>
</tr>
<tr>
<td>2009-10</td>
<td>8.0</td>
<td>0.4</td>
</tr>
<tr>
<td>2010-11</td>
<td>8.6</td>
<td>5.4</td>
</tr>
<tr>
<td>2011-12</td>
<td>6.9</td>
<td>2.5</td>
</tr>
</tbody>
</table>


In the year of 2007-08, the agriculture sector had achieved an impressive growth of 5.8 per cent. However, this high growth could not be maintained in the following two years and agriculture sector growth fall into the negative zone of -0.1 per cent in 2008-09.

The decline in growth of agricultural GDP also was primarily due to the fall in the production of agricultural crops such as oilseeds, cotton, jute and sugarcane. In 2009-10, despite experiencing the worst south-west monsoon since 1972 and subsequent significant fall in kharif food grain production, the growth marginally recovered to 0.4 per cent primarily due to a good rabi crop.

The experience from BRICS countries indicate that a one percentage growth in agriculture is at least two to three times more effective in reducing poverty than the same growth emerge from non-agriculture sectors. Given that India is still home to the largest number of poor and poorly people in the world, a higher priority to agriculture will achieve the goals of reducing poverty and malnutrition as well as of inclusive growth.

Since agriculture forms the resource base for a number of agro-based industries and agro-services, it would be more meaningful to view agriculture not as farming alone but as a holistic value chain, which includes farming,
wholesale, warehousing (including logistics), processing, and retailing. Further, it may be noted that in the last two Five Year Plans, it is clearly mentioned that for the economy to grow at 9 per cent, it is important that agriculture should grow at least by 4 per cent per annum.

India being an agrarian economy and an agro-based industrial structure, the interrelationship between agriculture and industry has been one of the major issues for researchers and policy makers since the beginning of the planning period. In the pre and early post-independence period, the industry sector had a close relationship with agriculture due to the agro-based industrial structure (Satyasai and Viswanathan 1997). Satyasai and Viswanathan (1999) found that the output elasticity of industry with respect to agriculture was 0.13 during 1950-51 to 1965-66. Rangarajan (1982) has found that a 1.0 percent growth in agricultural production increases industrial production by 0.5 percent, and thus, GDP by 0.7 percent during 1961-1972.

The activities of agriculture and industry being essential part of developmental process due to their mutual interdependence relationship, the contribution of agriculture to the economy in general and to industry in particular is well known in almost all the developing countries. However, the degree of interdependence may vary and also change over a time.

In context to the inter-relationship between agriculture and industry has been discussed in several theory and empirical literatures from different point of view. First, agriculture supplies food grains to industry to facilitate absorption of labour in the industry sector. Secondly, agriculture supplies the inputs like raw cotton, jute, tea, coffee etc. needed by the agro-based industries. Thirdly, industry supplies industrial inputs, such as fertilizer, pesticides, machinery etc. to the agriculture sector. Fourthly, agriculture influences the output of industrial consumer goods through demand. Fifthly, agriculture generates surpluses of savings, which can be mobilized for investment in
industry and other sectors of the economy. Sixthly, fluctuations in agricultural production may affect private corporate investment decisions through the impact of the terms of trade on profitability (Ahluwalia, 1986 and Rangarajan, 1982).

Whereas some of these angles emphasize the agriculture-industry' linkage on the supply side or production side, others emphasize the linkages through the demand side. The production linkages basically appear from the interdependence of the sectors for meeting the needs of their productive inputs, whereas the demand linkage arises from the interdependence of the sectors for meeting final consumption. Further, the linkages between the two sectors can also be categorized into two groups based on the direction of interdependence. One is the backward linkage, which identifies how a sector depends on others for their input supplies and the other is the forward linkage, which identifies how the sector distributes its outputs to the remaining economy. More importantly, these two linkages are indicating role of agricultural sector in economic pull and push, because the direction and level of such linkages present the potential capacity of each sector to stimulate other sectors and then reflect the role of this sector accordingly.

1.2 Nature of Food Processing

Food processing involves any type of value addition to agricultural or horticultural produce and also includes processes such as grading, sorting, and packaging which increase shelf life of food products. The food processing industry provides necessary linkages and synergies between industry and agriculture. India's food processing sector include a wide range of products fruit and vegetables, meat and poultry, milk and milk products, alcoholic beverages, fisheries, plantations, grain processing and other consumer product groups like confectionery, chocolates and cocoa products, soya-based products, mineral water, high protein foods etc.
1.3 The Food Supply Chain

India has an enormous opportunity to become a leading global food supplier if only it has the right marketing strategies and of course fast and efficient supply chain. The food supply chain is compound with perishable goods and multiple small stakeholders. The food supply chain can be subdivided into a number of sectors.

Agriculture, horticulture, fisheries and aquaculture are the basic producers, the manufacturers who process the food for ready to eat or cook format together with the packaging companies are in the intermediate stage, and the retailers, wholesalers and caterers are in the last stage of the supply chain. At each stage value is added by the new ownership such as processors, distributors, packers, etc. and the cost and profits are part of the business. The food items can go to the final consumer from any of the three stages: from farmers in the form of fresh produce, to the caterers directly from the manufacturers, and finally from the retailer (small or big) to the consumer.

1.3.1 The Cold Chain

Cold chain is a logistic system that provides a series of facilities for maintaining ideal storage conditions for perishables from the point of origin to the point of consumption in the food supply chain. The chain needs to start at the farm level (e.g. harvest methods, pre-cooling) and cover up to the consumer level or at least to the retail level. A well-organized cold chain reduces spoils, keep the quality of the harvested products and assure a cost efficient delivery to the consumer given adequate attention for customer service. The main feature of the chain is that if any of the links are missing or is weak, the whole system fails.

The Cold chain logistics infrastructure generally consists of:

- Pre-cooling facilities
- Cold Storages
- Refrigerated Carriers
- Packaging
- Warehouse and Information Management systems
- Traceability, Financial and Insurance Institutions
1.3.2 Food Packaging

Dairy products, edible oils, farm products, sugar, fruit juices, concentrates, preserves, hot and cold beverages, breakfast foods, confectionery, are some major foods of daily necessities where packaging will have superior potential and growth areas. Package has become the competitive tool to reach the consumer and the role assumes increasing responsibility with more and more of competitive and replaces products being introduced. This has opened the sector for introduction of modern technology for processing and packaging and entry of host of new organizations from all sectors of the economy both domestic and overseas. Cost of packaging vary anywhere from 10 percent to 64 percent of production costs and efforts should be made to reduce these costs through use of manufacturing mechanization and economies of scale.

1.3.3 Standards

Standardization is a powerful tool for improving supply chain efficiency. There are two kinds of standards in the food supply chain. The first one is the food standard that concerns itself about the content, the manufacturing process and the packaging etc. There are several such standards for dairy, poultry etc. The second standard concerns the logistics and IT systems like standardization of cartons, pallets and IT software so that seamless transfer of goods and information is possible. Standards enable partners across the supply chain to enjoy increased productivity and economies of scale due to better compatibility and interoperability of their systems and processes.

1.3.4 Food Safety and hygiene

Food security is a growing concern across the world. There is increasing need to provide greater confidence about the safety and quality of food to consumers. The increase in world food trade and the appearance of the Sanitary and Phytosanitary (SPS) Agreement under the World Trade Organization (WTO) have lead to increasing recognition and adoption of food safety measures. The capacity of India to enter world markets depends on its
capability to meet increasingly strict food safety standards imposed in
developed countries. Food standards are expected to acquire greater importance
given increasing concerns on food safety on the back of eruption of diseases
such as Avian Influenza, and Bird Flu etc on the one hand, and growing
consumer demand for products which are healthy on the other. Compliance
with international food standards is a prerequisite to gain a higher share of
world trade.

1.3.5 Training

The food supply chain is going through a period of great change and
needs to be supported through new organizational forms manned by specialists.
Training, coaching, counseling and mentoring have to be extended to all the
parties in the supply chain. For example, it is important to manage courses and
training meeting on cold chain management to raise the knowledge and
awareness on the importance of performing the cold chain management to
ensure that there is no breakdown in maintaining the required temperature
throughout the supply chain. In this way a combine of skilled manpower with
good knowledge of cold chain management to meet the needs of the industry
will be generated. The same applies to other areas in the food supply chain
such as procurement, retailing etc.

1.4 Food Processing Sector in India: An Overview

The food processing sector in India has been given high preference by
the Government of India, with a number of fiscal supports, to encourage
commercialization and value addition to agricultural produce. The country has
a prominent position in the production of major crops (chiefly, wheat and rice),
various fruits and vegetables as well as in milk. Though India is ranked second
globally, in the production of fruits and vegetables, its contribution towards
human nutrition and human development index (HDI) is abysmally low. In this
context appropriate and affordable food technologies can play a greater role in
socio-economic empowerment of this country.
In India, the food processing industry is one of the largest in terms of production, consumption and export prospects. The Ministry of Food Processing Industries is the main central agency responsible for developing such a vibrant food processing sector. The Ministry covers the products of fruits and vegetables, dairy, meat, poultry, fishery, consumer food, grains, non-molasses based alcoholic drinks, aerated water and soft drink. It aims to create increased job opportunities in rural areas, enable the farmers to earn benefit from modern technology and stimulate demand for processed food.

Factors that are likely to fuel rapid growth in demand for processed food processing sector are: changing lifestyles and growth in disposable income, rising double-income families and proportion of women in the workforce, decreasing prices of processed foods making them more affordable thereby accessing a much larger market and fast growth in organized retail with a diversity of retail formats being developed. The major investment opportunities lie in processing milk, sugar, fruit, vegetables and marine products and an estimated 30% of new capacity could be for the export market.

1.5 Indian Food Processing Industry-Present Scenario

The scenario of the food industry has changed seriously on account of the changing lifestyle, food habits and change. Demand for healthy and high value food items along with improved technology and trade liberalization policies have created large growth opportunities in the food processing industry, the size of the global food processing industry which account for three fourths of the global food industry is Rs.190 trillion

India has been one of the key food producers in the world, with the second largest arable land area. It is the largest producer of milk, pulses, sugarcane and tea in the world and the second largest producer of wheat, rice, fruits and vegetables. The consumption pattern in India has changed due to economic growth and changing lifestyle. Food processing industry can do to rural India what Information Technology has done to urban India.
Major economies in the food processing include USA, France, Malaysia and Thailand account for more than 50 percent of the Level of Processing. While India has an abundant supply of food, the food processing industry is still nascent.

Table – 1.3 : Country-Wise Level of Processing

<table>
<thead>
<tr>
<th>Country</th>
<th>Level of processing (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>80.0</td>
</tr>
<tr>
<td>France</td>
<td>70.0</td>
</tr>
<tr>
<td>Malaysia</td>
<td>80.0</td>
</tr>
<tr>
<td>Thailand</td>
<td>30.0</td>
</tr>
<tr>
<td>Australia</td>
<td>25.0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>12.0</td>
</tr>
<tr>
<td>India</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Source: International Market Research Reports. (2012)

Despite these low volumes, the processed food industry is one of the largest industries in India. It is ranked fifth in terms of production, consumption, export and export lead growth. Processed food industry accounts for 13 per cent of India's exports and 6 per cent of the total industrial investment.

In terms of fixed capital, food processing sector is growing at an AAGR of 20.35 per cent during five years ending 2011-12. The fixed capital in food processing industry stood at Rs.1, 45,038 Crore.

Table 1.4 : Fixed Capital in Registered Food Processing Industries

<table>
<thead>
<tr>
<th>Year</th>
<th>2007-08</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>AAGR ( $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Capital</td>
<td>68,335</td>
<td>81,156</td>
<td>99,482</td>
<td>1,20,705</td>
<td>1,45,038</td>
<td></td>
</tr>
<tr>
<td>Growth rate (%)</td>
<td>18.93</td>
<td>18.76</td>
<td>22.58</td>
<td>21.33</td>
<td>20.16</td>
<td>20.35</td>
</tr>
</tbody>
</table>

Source: Annual Survey of Industries (2012)
The Entire Value Chain for a Private Entrepreneur from Demand Estimation to Consumption is described. The Stages involved in the value chain are:

1. Market: the Entrepreneur estimates the demand for crops and decides which crop to sow
2. Input: After deciding on specific crops, the entrepreneur ploughs the crop with the use of fertilizers, pesticides, nutrients and water to realize a good crop.
3. Pre Harvest: After a good crop, Pre Harvest involves maintaining the crop till harvest with the use of latest technology and fertilizers.
4. Harvesting: It involves the process of separating a full grown crop for processing, packaging, transportation and finally for consumption.
5. Post Harvesting: After harvesting, the crop goes through a chain of processes to filter the crop on the basis of Quality and many others parameters. The crops thus chosen are packaged accordingly for safe transportation to the market. In case of perishable products it also requires to be processed for their preservation. Processing even helps in avoiding food wastage.
6. Transportation: It involves the physical movement of the crop and processed food from the farm to the actual Market.
7. Market: Finally, the Chain gets completed when the crop reaches the market for consumption and the farmers as well as the processing units get the money from it.

1.6 Problems and Issues in Promoting Agri-Business and Agro Industries in India

Insufficient supplies and their suitability for processing has remained one of the major problems in agro-processing, the yields are much lower compared to the world average. Heavy losses are a role in the post-harvest handling and marketing. The losses are both quantitative and qualitative. Lack of varieties and qualities suitable for processing, short periods of raw materials
availability and high costs of the raw material are other problems, as much as 30 per cent of fruits and vegetables are lost annually. What is most urgently needed is that the processing industry should develop appropriate linkages with primary producers, for productivity improvement and increased availability of the raw material.

There are also restriction in the area of processing and marketing. These relate to technology, market development and financial aspects. A considerable part of agro-industry production occurs in the cottage and small sector and, therefore, the technology used is often outdated, giving sub-optimal yields and energy utilized being more. Scale economies in production are lacking and marketing costs are more. For example, modern rice mills yield at least 4 per cent more of rice compared to traditional hullers. The slaughter houses in the village use old techniques are unhygienic and lack facilities for complete utilization of the by-products, new technologies are available which facilitate the recovery of all the byproducts.

Ways have to be found to merge smaller units with larger and more modern units where smaller units can supply intermediate products for final conversion into end-products. Furthermore, more and more integrated agro-processing complexes need to be encouraged which can serve as an anchor for forging forward and backward linkages.

Value added products from intensive processing require large expenditure on market development. This problem is more compounded because packaged and processed products in India become more expensive. Therefore a large number of units should be encouraged to come together to promote the products. Packaging material manufacturers are either unwilling to accept small orders from processing units of charge more.
The fixed capital per factory is comparatively very small, but the working capital is substantially larger for agro-industrial units than for non-agro-industries. Therefore, agro-industrial units not only require term capital for modernization and rehabilitation but also face a higher rate of interest on working capital requirements from commercial banks. Therefore the working capital needs of agro-industries, both in terms of cost as well as margin money, will have to be looked at rather differently than for non-agro-industries. An analysis of sick units in the agro-processing sector indicates that in a large number of cases, it is the extreme costs and poor management of the working capital that have really brought about the sickness.

In India, the processed packaged food products have been subjected to high incidence at various stages of processing. The taxes and packaging costs together comprise the main part of the prices of processed products. These products, therefore, have to be made cheaper so that they obtain a larger consumption base in the domestic market. Taxation policies on processed products and custom duties on plant and machinery need be deeply examined and made helpful to the industry.

At the primary processing stage where raw material accounts for the bulk of the cost, the interests of the farmers have to be safeguarded. Thus in all such agro-processing enterprise, this appropriate backward linkage has to be encouraged and nurtured, including during the times of falling prices. At higher levels of processing of some of the byproducts, where the weightage of the raw material is smaller, this question is not very important.

Large number of agro-processing units requires technology upgradation. But as adequate level of technology and necessary items is not always available, it is essential to further liberalize the import of technology in selected areas, particularly packaging and machinery for food processing. Policy issues on import of technology need to be discussed. Preferential treatment to the development of packaging industry also needs to be given attention.
As the trend for producing and exporting more value added products accelerates, it will be necessary to promote and establish Indian brands in national as well as international markets. Several successful efforts have already been made by agro-based units. The recent effort of the Tea board to promote Darjeeling Tea and Tea bags is one such example. The marine products export development authority has also taken up the promotion of products for direct consumer sale in the importing countries. Therefore, the role of various export promotion agencies in developing international markets needs to be examined.

As the units are small, cost of term capital is higher and also working capital has to be raised from commercial banks at higher rates of interest. More liberal financial assistance needs to be devised for accelerating the production of agro-based products.

As the majority of the units in agro-processing sector are small, the available data base is very weak. It is necessary to prepare comprehensive case studies of selected units in each major sub-sector so that the problems at the cutting edge level are understood and recommendation for policy formulation can be made. In this context, there is also a need for comprehensive industry studies for various agro-based subsectors. These studies should also make inter-firm comparisons within the industry. The possibility of networking of various institutions involved in the study of agro-processing sector also needs to be examined.

1.7 Trade Liberalization

A significant development in recent years, which will affect the exports of agricultural commodities, is the signing of GATT in 1995. GATT is an international treaty, which guides trade relations among its member countries. It essentially paves the way for trade negotiation, opening up of markets, reducing tariff barriers etc. the world trade organization (WTO), which has been set up oversee implementation of the provisions of GATT, resolves trade
disputes that arise between members. The GATT system makes trade open and free, with minimum tariff barriers, which allows every member country to increase its exports of products where it has a comparative advantage. This can be either a threat or an opportunity, and depends on how one views it. As a member of GATT each country has rights, benefits and obligations.

The consequence of reduction of trade barriers in Japan, Europe and USA, which are leading importers of horticultural products from developing countries, need to be analyzed to get a picture of the changed situation. Liberalization would increase both the quantities of world export and world prices. The consequences of trade liberalization through the reduction in tariffs has affected four major categories of horticultural exports namely, fresh fruits, fresh vegetables, processed vegetables and processed fruits.

1.8 Nature of Export Promotion

Export promotion pertaining to that policy of the government that offers encouragement to the exporters to enhance the export of the country. In order to achieve this objective they are given more incentives and facilities. Export promotion schemes can play an important role in the development strategies of countries, especially of developing countries that seek to make exports an engine for economic growth.

Export assistance programs are public measures designed to assist firms’ export efforts, including foreign market information, finding agents, language assistance, translation, counseling, and sales leads. The goal of these programs is to help firms to gain knowledge and experience that is necessary for successful involvement in international markets.

Export assistance programs are intended to complement the internal resources and capabilities of small and medium sized manufacturers. Such programs are designed to subsidize exporters’ international marketing efforts
and give them an edge over their foreign competitors, by providing them with required resources, expertise, and knowledge that they are lacking. As yannopoulos quotes from Seringhaus and Botschen “the specific goals of export promotion programs are:

1. To develop a broad awareness and stimulate interest in exports.
2. To assist firms in preparation and planning of export activities.
3. To assist firms in acquiring needed expertise and know-how.
4. To support export efforts through organizational help and cost-sharing programs.”

1.9 Export Promotional Schemes for Indian Agriculture

Indian government is taking plentiful numbers of incentives and action for promoting the exports of agricultural products including fruits and vegetables under Plan schemes of the Commodity Boards and Export Promotion Councils etc. These schemes are likely to benefit the entire horticulture industry. Under the administrative control of the Department of Commerce, the Agricultural and Processed Food Products Export Development Authority (APEDA) is also placing various Schemes into practice to expand financial assistance to the eligible exporters; namely schemes for market development; infrastructure development; quality development; research & development and transport assistance.

Besides these measures, the Ministry of Commerce & Industry has put in place various schemes namely MDA, MAI, ASIDE, Vishesh Krishi and Gram Upaj Yojana, Focus Product Scheme, Focus Market Scheme, Town of Export Excellence, etc. to encourage exports. The government also provides assistance under Centrally Sponsored Scheme on National Horticulture Mission (NHM) for various interventions aimed at increasing production and productivity of horticultural crops for the holistic development of horticulture in the country.
Production related activities include development of planting material through nurseries, area expansion, rejuvenation, integrated pest management, integrated nutrient management and creation of water resources. Besides, assistance is also being included for creating infrastructure for post harvest management and marketing. Export of fruits and vegetables are allowed without any constraint under the Foreign Trade Policy (FTP). The government keeps close on the accessibility of all agriculture products at fair price in domestic market and imposes restrictions on their exports as and when required.

1.10 Government Initiatives for Exporting Agricultural Produce

India being an agriculture based economy has a lot of potential for agricultural produce export. But unfortunately even after the green revolution the large amount of its agricultural produce exports is insufficient as compared to the total production. Therefore, the Government of India had taken the initiative and established various institutions/organizations to promote the agricultural and processed food exports from India. A diagrammatic presentation of major organizations playing a significant role in exports of agricultural and food commodities are given below:

![Figure 1](source.png)

Source: government of India, Ministry of commerce& industry (2012)
From the above diagram, observe that the Government of India has set up DGFT, EIC, IIFT & EXIM bank for licensing, quality certification, management and consultancy and financial activities respectively under Ministry of Commerce & Industry. In addition to these Export Promotion Authorities Councils Commodity Boards were also set up for the development of agricultural and marine products with regard to exports.

1.10.1 Agricultural and Processed Food Products Export Development Authority (APEDA)

The Agricultural and Processed Food Products Export Development Authority (APEDA) came into existence in 1986 under an Act of the Parliament to further develop Indian agricultural commodities and processed foods, and to promote their exports. The objectives of this organization are to maximize foreign exchange earnings through increased agro exports, to provide better income to the farmers through higher unit value realization and to create employment opportunities in rural areas by encouraging value added exports of farm produce. APEDA went about achieving these by identifying new markets, providing better support systems to exporters and manufactures, and introducing new products to the international market.

1.10.1.1 Development Programmes of APEDA

In order to promote the exports of agricultural products (except marine, tea, coffee, rubber, spices, coir and cashew) from India, APEDA undertakes the following development programmes:

- Development of database on products (export statistics), markets and services.
- Publicity and information dissemination.
- Invites official and business delegations from abroad.
- Organisation of product promotions abroad and visits of official and trade delegations abroad.
- Participation in international trade fairs in India and abroad.
- Organisation of buyer-seller meets and other business interactions.
- Distribution of Annual APEDA awards.
• Provides recommendatory, advisory and other support services to the trade and industry.
• APEDA recognition of HACCP Implementation/ Certification Agencies.

1.10.1.2 Financial Assistance

APEDA has been actively engaged in the development of markets besides upgradation of infrastructure and quality to promote the export of agro products. In its endeavour to promote agro exports, APEDA provides financial assistance to the registered exporters under the following schemes:

• Scheme for Market Development
• Scheme for Infrastructure Development
• Scheme for Quality Improvement
• Scheme for Research & Development
• Scheme for Transport assistance

The trend of scheme wise allocation to APEDA for the last five years is shown in the following table:

Table – 1.5 : Scheme-Wise Allocation made by APEDA to EOUs
(Rs. in crore)

<table>
<thead>
<tr>
<th>Schemes</th>
<th>ID</th>
<th>MD</th>
<th>QD</th>
<th>R&amp;D</th>
<th>TA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year</td>
<td>Value</td>
<td>Growth (%)</td>
<td>Value</td>
<td>Growth (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheme for Market Development</td>
<td>2007-08</td>
<td>19.85</td>
<td>-</td>
<td>15.00</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheme for Infrastructure Development</td>
<td>2008-09</td>
<td>47.00</td>
<td>136.7</td>
<td>15.00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheme for Quality Improvement</td>
<td>2009-10</td>
<td>50.00</td>
<td>6.38</td>
<td>17.00</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheme for Research &amp; Development</td>
<td>2010-11</td>
<td>60.00</td>
<td>20</td>
<td>14.00</td>
<td>-17.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheme for Transport assistance</td>
<td>2011-12</td>
<td>50.00</td>
<td>-16</td>
<td>14.00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total value</td>
<td>226.85</td>
<td>75</td>
<td>51</td>
<td>4.15</td>
</tr>
</tbody>
</table>


Table 1.5 indicates that scheme wise allocation in terms of value under five popular schemes of APEDA.

During the study period 2008-09 there is disproportionate growth of allocation in Infrastructure Development accounted for 136.7 per cent, Market Development is 13.3 per cent growth in 2009-10, Quality Development is accounted for 42.8 per cent growth in 2010-11, Research and Development is 566.6 per cent growth in 2008-09 and the growth rate of Transport Assistance is 143.18 per cent during 2010-11.

The allocation made by the APEDA was not steadily growth during 2007-08 to 2011-12. Therefore, APEDA has to be made integrated linkage factors, before making allocation under its schemes to accelerate export growth of Agricultural Processed Food Products.

1.10.1.3 Agri Export Zones

The Government of India has identified sixty product-wise potential zones which can be developed to augment agricultural exports from India. These Agri Export Zones are expansion across the India. These specified areas are provided special attention, assistance and certain benefit through various Government Agencies like Ministry of Food Processing Industries, National Horticulture Board, Ministry of Agriculture and APEDA.

1.10.1.4 Network of Organization

APEDA provides services to processors and exporters of India by way of its 5 regional and 12 virtual offices located at Mumbai, Hyderabad, Kolkata, Bangalore, Guwahati and Raipur, Chandigarh, Ahmedabad, Jammu, Thiruvananthapuram, Bhopal, Imphal, Kohima, Bhubaneshwar, Chennai, Agartala and Lucknow respectively. The Head Officer of APEDA is in New Delhi.
1.10.2 Coffee Board

The Coffee Board of India is an autonomous body, operating under the Ministry of Commerce and Industry, Government of India. The Board worked as a friend, philosopher and guide of the coffee industry in India. This was set up under an Act of the Parliament in the year 1942, the Board focuses on research, development, expansion, quality upgradation, market information and the domestic and external promotion of Indian coffee.

Till 1995, the Coffee Board had a monopolistic control over the marketing of coffee in India. However, the winds of liberalization swept the Indian coffee industry and since 1995, marketing of coffee is strictly a private sector activity. In fact the Coffee Board went through a heavy down-sizing and two-thirds of its employees were retired under a voluntary retirement scheme.

The Coffee Board conducts basic and applied research on coffee and can boast of 75 glorious years in coffee research. The Central Coffee Research Institute in the Chickmagalur district of Karnataka State has been in the forefront of coffee research over the years and continues to remain one of the premier institutes of the world as far as coffee research is concerned. The Research Department publishes various journals and periodicals. It also offers various services to growers and exporters.

The Board also has a vast extension network spread over the three main producing states of Karnataka, Kerala and Tamil Nadu, as well as in the non-traditional areas of Andhra Pradesh, Orissa and the seven North-eastern states. The extension set up provides the day-to-day link with the grower community and this wing facilitates the transfer of technology from lab to land.

Table – 1.6 : Export of coffee from India

<table>
<thead>
<tr>
<th>Year</th>
<th>2007-08</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total export</td>
<td>204471</td>
<td>223841</td>
<td>207067</td>
<td>336571</td>
<td>454677</td>
</tr>
<tr>
<td>Annual change (%)</td>
<td>-</td>
<td>9.5</td>
<td>-7.5</td>
<td>62</td>
<td>35</td>
</tr>
</tbody>
</table>

Source: Coffee board of India (2012)
1.10.2.1 Assistance Programmes of Coffee Board

Coffee Board implements the following assistance programmes for Coffee growers/processors/exporters:

- Special Coffee Term Loan (SCTL) relief package to coffee growers.
- Self Help Group (SHG)
- Special Assistance Programme (SAP)
- Coffee Development Programme
- Price Stabilization Fund (PSF)
- Price Crisis in Coffee Sector & Measures taken by the GOI

The assistance given by Coffee Board under above schemes is a major share of financial assistance which is offered to grower/processor/exporter, directly or indirectly.

1.10.3 Spices Board

Out of the 109 spices listed by the International Organization for Standardization (IOS), India produces as many as 75 in its various agro-climatic regions. Spice production in India, is undertaken in millions of tiny holdings and determine the livelihood of a large number of the rural population. Spices Board was established on 26th February 1986 under the Spices Board Act, with the merger of the erstwhile Cardamom Board (1968) and Spices Export Promotion Council (1960). Spices Board is one of the five Commodity Boards functioning under the Ministry of Commerce & Industry. It is an autonomous body responsible for the export promotion of the scheduled spices and production and development of some of them such as Cardamom and Vanilla.
Table – 1.7 : Export of Spices from India

<table>
<thead>
<tr>
<th>Year</th>
<th>QTY (MT)</th>
<th>Value (Rs. Lakh)</th>
<th>Value growth rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>444250</td>
<td>443549.96</td>
<td>-</td>
</tr>
<tr>
<td>2008-09</td>
<td>470520</td>
<td>530025.46</td>
<td>19.50</td>
</tr>
<tr>
<td>2009-10</td>
<td>502750</td>
<td>556050.06</td>
<td>4.9</td>
</tr>
<tr>
<td>2010-11</td>
<td>525750</td>
<td>684070.7</td>
<td>23.02</td>
</tr>
<tr>
<td>2011-12</td>
<td>575270</td>
<td>978342.48</td>
<td>43</td>
</tr>
</tbody>
</table>

Source: spices board India, Kerala (2012)

The spices export from India has continued its upward trend. The export during 2010-11 has been 5, 25,750 tons valued 6840.71 crores (US $1500.00 million) against 5, 02,750 tons valued 5560.50 crores in the last financial year. Compared to previous year, the spices export in 2010-11 has shown an increase of 5 percent in volume and 23 percent in terms of rupee value. In the year of 2011-12 the export also has been 575270 tons valued 9783.42 crores. the export in this year has shown an increase of 9 percent in volume and 43 percent in terms of rupee value.

1.10.3.1 Export Promotion

Spice Board of India performs the following primary functions to help the growth of spice exports from India:

- Research, Development and Regulation of domestic marketing of Small and Large Cardamom.
- Research and production development of vanilla.
- Post harvest improvement of all spices.
- Promotion of organic production, processing and certification of spices.
- Provision of quality evaluation services.
- Technology upgradation.
- Quality upgradation
- Brand promotion
- Research and product development
Spice Board also has promotional programmes on production development, post harvest improvements and export promotion for spice sector.

1.10.3.2 Plan Schemes

Based on the proposals submitted by Spices Board the Government has approved the following six schemes for implementation during the XI Plan period:
1. Special purpose fund for replanting and rejuvenation of cardamom plantations
2. Export oriented production and post harvest improvement of spices
3. Export development & promotion of spices
4. Export oriented research
5. Quality improvement and strengthening of quality evaluation laboratory
6. Human resource development & capital works

In addition to these schemes, the Government has approved a Scheme for replantation and rejuvenation of pepper in Wynad district in Kerala and NE with an outlay of Rs.53.28 crores during October 2009 for implementation during the next five years. The details of scheme wise approved XI Plan outlays are as follows:

Table – 1.8 : Scheme- Wise Approved In the XI Plan

<table>
<thead>
<tr>
<th>No</th>
<th>Name of the scheme</th>
<th>Approved outlay (Rs. crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Special purpose fund for replanting and rejuvenation of cardamom plantations</td>
<td>122.23</td>
</tr>
<tr>
<td>2</td>
<td>Export oriented production</td>
<td>82.94</td>
</tr>
<tr>
<td>3</td>
<td>Export development &amp; promotion of spices</td>
<td>192.69</td>
</tr>
<tr>
<td>4</td>
<td>Export oriented research</td>
<td>20.00</td>
</tr>
<tr>
<td>5</td>
<td>Quality improvement</td>
<td>20.00</td>
</tr>
<tr>
<td>6</td>
<td>HRD &amp; Capital works</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>442.86</strong></td>
</tr>
</tbody>
</table>

Source: spices board India, Kerala (2012)
1.10.3.3 Other Responsibilities

In addition to the above, Spice Board also performs the following other export promotion related activities of spices:

- Quality certification
- Quality control
- Registration of exporters
- Collection and documentation of trade information
- Provision of inputs to the Central Government on policy matters relating to import and export of spices

1.10.3.4 Quality Marking

Spice Board approves use of quality marking as ‘Indian Spices Logo, and the Spice House Certificate under its promotional strategy. The Indian Spices Logo is awarded to those who export spices in branded consumer packs. The award is given after a two-tier inspection to satisfy compliance with regard to adherence to practices ensuring quality, hygiene and safety. Hazard Analysis and Critical Control Points (HACCP) Certification is a precondition for awarding Indian Spices Logo.

Nineteen (19) spice exporters are awarded with Indian Spices Logo. The Board has registered Indian Spices Logo with the Trade Registry Authorities in 18 countries. Spice House Certificate is awarded to exporters of spices who possess the specified infrastructural facilities for cleaning, processing, grading, packaging and warehousing as the case may be. So far 58 units have been awarded the Spice House Certificate. Another step taken by Spices Board to ensure improved quality of exported spice is registration of brands (consumer as well as institutional packs - up to 25 kg) of registered exporters. The objective of the brand registration is to ensure specified standards of quality of both the product and packing.
1.10.4 Tea Board of India

Tea is one of the industries, which by an Act of Parliament comes under the control of the Union Govt. The genesis of the Tea Board India dates back to 1903 when the Indian Tea Cess Bill was passed. The Bill provided for levying a Cess on tea exports - the proceeds of which were to be used for the promotion of Indian tea both within and outside India.

The present Tea Board set up under Section 4 of the Tea Act 1953 was constituted on 1st April 1954. It has succeeded the Central Tea Board and the Indian Tea Licensing Committee which functioned respectively under the Central Tea Board Act, 1949 and the Indian Tea Control Act, 1938 which were repealed. The activities of the two previous bodies had been confined largely to regulation of tea cultivation and export of tea as required by the International Tea Agreement then in force, and promotion of tea Consumption. The following Table gives the year-wise details of physical targets and achievement of production and exports of tea since the year 2007-08.

Table – 1.9 : Exports of Tea from India

<table>
<thead>
<tr>
<th>Year</th>
<th>Qty (M.Kgs)</th>
<th>Value (Rs.Crs.)</th>
<th>Value growth rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>187.95</td>
<td>1978.37</td>
<td>-</td>
</tr>
<tr>
<td>2008-09</td>
<td>190.64</td>
<td>2381.80</td>
<td>20.1</td>
</tr>
<tr>
<td>2009-10</td>
<td>213.43</td>
<td>3038.68</td>
<td>27.6</td>
</tr>
<tr>
<td>2010-11</td>
<td>213.79</td>
<td>2995.79</td>
<td>-1.4</td>
</tr>
<tr>
<td>2011-12</td>
<td>190.95</td>
<td>2863.33</td>
<td>-4.42</td>
</tr>
</tbody>
</table>

Source: Tea Board of India (2012).

The quantity of export of tea was 190.95 million kgs during the year 2011-12 as against 213.79 million kgs in the year 2010-11 whilst the value of export during the year 2011-12 was Rs. 2863.33 crore as against Rs .2995.70.
The reason for this decline in export quantum was due to the increasing domestic demand which accounts for more than 80 percent of the total tea produce in the country. The domestic consumption which used to be around 70 million kgs in the early 50s had grown manifold over the last six decades and in 2011 it was around 860 million kgs against the total production of 988 million kgs. The domestic demand is growing on an average at the rate of 20 to 25 million kgs per annum.

1.10.4.1 Functions of the Tea Board

The Tea Board has wide functions and responsibilities under the direction of the Central Government. Briefly the primary functions of the Tea Board are as under:

1. Rendering financial and technical assistance for cultivation, manufacture and marketing of tea.
2. Export promotion.
3. Aiding research and development activities for augmentation of tea production and improvement of tea quality.
4. Extending financial assistance in a limited way to the plantation workers and their wards through labour welfare schemes.
5. Encouraging and assisting both financially and technically the unorganized small growers sector.
6. Collection and maintenance of Statistical data and publication.

1.10.5 The Cashew Export Promotion Council of India (CEPC)

The Cashew Export Promotion Council of India (CEPC) was established by the Government of India in the year 1955, with the active cooperation of the cashew industry with the object of promoting exports of cashew kernels and cashew nut shell liquid from India. By its very set up, the Council provides the necessary institutional frame-work for performing the different functions that serve to intensify and promote exports of cashew kernels and cashew nut shell liquid.
The Council provides the necessary liaison for bringing together foreign importers with member exporters of cashew kernels. The enquiries received from the foreign importers are circulated amongst Council members.

Exports of cashew kernels from India are normally subject to voluntary quality control and pre-shipment inspection. Inspection of cashews is being conducted under the consignment-wise inspection. It is ensured that the product is processed and packed as per the standards prescribed, by drawing samples from the finished product.

Export of roasted and salted cashew kernels are also normally subjected to voluntary quality control. In order to promote cashew exports from India CEPC provides technical, financial & other suitable help to growers/processors and traders.

1.10.5.1 India's Export Pattern in Cashew Kernels and CNSL

The total export of cashew kernels from India during 2007-08 was 114340 MT valued at Rs 2288 crore. Export earnings from cashew kernels declined by 6.80 per cent during 2007-08 from a year ago.

The average unit export price realized during 2007-08 was Rs. 200.18 per kg as against Rs. 207.15 per kg during 2006-07 indicating a decrease of 3.34 percent. This may be due to the appreciation in the value of the rupee.

India is the second largest cashew exporter with 29 percent of the world market share in 2007. The major markets of Indian cashew are USA, UK, Japan, Netherlands, Australia, Canada and Middle East countries.

Vietnam has emerged as a major competitor to India in international cashew trade. Most cashew kernels exported from India are plain kernels packed in pouch/ tin with net weight of 11.34 kg (25 lb).
There has been an increase of 129 percent in the volume of export of cashew kernels during the period 2007-08 to 2011-12. The value of export of cashew kernels has increased considerably from Rs. 2288.90 Crore to Rs. 4390.68 Crore during the same period. There has been a decline in the exports during 2008-11 from the country due to the increased availability in the world market at low prices.

### 1.11 Promotional Measures in Department of Commerce

Presently, there are fourteen Export Promotion Councils under the administrative Control of the Department of Commerce. These Councils are registered as non-profit organizations under the Companies Act/ Societies Registration Act. The Councils perform both advisory and executive functions. The role and functions of these Councils are guided by the Foreign Trade Policy.

Under the present Foreign Trade Policy, Government of India recognizes exporters based on their export performance and they are called ‘status holders’. The Ministry of Commerce & Industry has put in place various schemes to provide assistance to encourage exports in general. The major schemes are:

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity</th>
<th>Value</th>
<th>Value growth rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>114340</td>
<td>228890</td>
<td>-</td>
</tr>
<tr>
<td>2008-09</td>
<td>109522</td>
<td>298840</td>
<td>30.6</td>
</tr>
<tr>
<td>2009-10</td>
<td>108120</td>
<td>290582</td>
<td>-2.7</td>
</tr>
<tr>
<td>2010-11</td>
<td>105755</td>
<td>281939</td>
<td>-3</td>
</tr>
<tr>
<td>2011-12</td>
<td>131760</td>
<td>439068</td>
<td>55.8</td>
</tr>
</tbody>
</table>

1.11.1 Assistance to States for Infrastructure Development of Exports (ASIDE)

The objective of the scheme is to involve the states in the export effort by providing assistance to the State Governments for creating appropriate infrastructure for the development and growth of exports.

The activities aimed at development of infrastructure for exports can be funded from the scheme provided such activities have an overwhelming export content and their linkage with exports is fully established.

The specific purposes for which the funds allocated under the Scheme can be sanctioned and utilized are as follows:

- Creation of new Export Promotion Industrial Parks/Zones (including Special Economic Zones (SEZs)/Agri-Business Zones) and augmenting facilities in the existing ones.
- Setting up of electronic and other related infrastructure in export conclave.
- Equity participation in infrastructure projects including the setting up of SEZs.
- Meeting requirements of capital outlay of EPIPs/EPZs/SEZs
- Development of complementary infrastructure such as roads connecting the production centres with the ports, setting up of Inland Container Depots and Container Freight Stations,
- Stabilizing power supply through additional transformers and islanding of export production centers etc.
- Development of minor ports and jetties of a particular specification to serve export purpose.
- Assistance for setting up common effluent treatment facilities.
- Projects of national and regional importance.
1.11.2 Market Development Assistance (MDA)

Under MDA Scheme, financial assistance is provided for a range of export promotion activities implemented by EPCs and Trade Promotion Organizations on the basis of approved annual action plans. The scheme is administered by DOC. Assistance includes, amongst others, participation in:

- Trade Fairs and Buyer Seller meets abroad or in India,
- Export promotions seminars.
- Financial assistance with travel grant is available to exporters traveling to focus areas, viz., Latin America, Africa, CIS region, ASEAN countries, Australia and New Zealand. In other areas, financial assistance without travel grant is available.

1.11.3 Brand Promotion and Quality

IBEF (originally called India Brand Equity Fund and later renamed as India Brand Equity Foundation) was set up by the Ministry of Commerce on 11th July, 1996, with the primary objective to promote and create international awareness of the “Made in India” label in markets overseas. IBEF aims to promote India as a business opportunity by creating positive economic perceptions of India globally as well as effectively present the India business perspective and leverage business partnerships in a globalised market-place.

Department of commerce provides funds for capacity building for upgradation of quality to national level Institutions and EPCs to organize training programmes for the skill improvement of the exporters for quality upgradation, reduction in rejection, product improvement etc. as provided under the Market Access Initiative (MAI) Scheme of DOC.

1.11.4 Test House (TH)

Central Government will assist in modernization and upgradation of test houses and laboratories to bring them at par with international standards.
1.11.5 Status Holder (Export and Trading Houses)

Merchant as well as Manufacturer Exporters, Service Providers, Export Oriented Units (EOUs) and Units Located in Special Economic Zones (SEZs), Agri Export Zones (AEZs), Electronic Hardware Technology Parks (EHTPs), Software Technology Parks (STPs) and Biotechnology Parks (BTPs) are eligible for status.

Status will be granted depending on total FOB (FOR - for deemed exports) of the applicant during current plus previous three years (taken together) upon exceeding limit given in table 1.11.

For Export House (EH) Status, export performance is necessary in at least two out of four years (i.e., current plus previous three years).

Table – 1.11 : Status Category

<table>
<thead>
<tr>
<th>Status Category</th>
<th>Export Performance FOB / FOR Value (Rs. Crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export House (EH)</td>
<td>20</td>
</tr>
<tr>
<td>Star Export House (SEH)</td>
<td>100</td>
</tr>
<tr>
<td>Trading House (TH)</td>
<td>500</td>
</tr>
<tr>
<td>Star Trading House (STH)</td>
<td>2500</td>
</tr>
<tr>
<td>Premier Trading House (PTH)</td>
<td>7500</td>
</tr>
</tbody>
</table>

Source: Government of India, Ministry of Commerce and Industry, Department of Commerce (2012)

1.12 Export of Agricultural Processed Food Products in Karnataka

Karnataka is a state in Southern India bordered by the Arabian Sea to the west, Goa to the northwest, Maharashtra to the north, Andhra Pradesh to the east, Tamil Nadu to the southeast, and Kerala to the southwest. The state covers an area of 191,976 square kilometres (74,122 sq mi), or 5.83 per cent of the total geographical area of India. It is the eighth largest Indian state by area. With over 61 million inhabitants (2011), Karnataka is the ninth largest state by population, comprising of 30 districts.
Karnataka state is predominantly an agricultural State. About 33 Percent of total gross domestic product is derived from agriculture and 66 per cent of the workforce dependent on agriculture. As such if the state has to prosper and progress economically, it is possible only through the development of the agriculture sector.

Karnataka State, which has been in the forefront in respect of agricultural and horticultural production, is blessed with ideal agro-climatic (10 zones) conditions and enterprising farming community. The State, with its salubrious and moderate climate, accounts for an enormous area under horticulture, and receives an active support from the State as well as Central Governments.

In Karnataka varieties of horticultural crops are grown. Almost every major cereal, pulse, oilseed, fruit, vegetables, flower, spices and plantation crops find ideal home in the state, thanks to the moderate climatic conditions, and the absence of a rigorous summer and winter. These lend the state a unique status in the field of horticulture.

Karnataka ranks 5th in India in terms of total area under horticulture and largest producer of coffee in the country. The state also is the 2nd largest producer of flowers (loose) in the country accounting for 20 per cent of total production, 3rd largest producer of plantation crops in India accounting for 11.6 per cent of the national production, 4th largest producer of spices in India accounting for 8.4 per cent of the national production, 5th largest producer of fruit accounting for 7.2 per cent of national production in terms of vegetables and 8th largest producer in the country accounting for 4 per cent of the total produce.

Due to commercialization of agriculture and introduction of improved technology, yield levels of crops are showing increased result in marketable surplus. While on the one hand production volumes have increased substantially, the domestic markets are not in a position to absorb the incremental production leading to a glut situation. At the same time, the global markets are developing faster than envisaged due to international trade liberalization.
Karnataka occupies a very important position in the horticultural map of India. The shift from subsistence farming to more remunerative horticultural crops has been a marked phenomenon in the recent past. In recent years, the area under horticultural crops has been growing much faster on account of liberalisation, market changes induced by the New Economic Policy (NEP), availability of infrastructure and the incentive structure. The area under horticultural crops in the State increased to 1.4 million hectares (from 0.8 million ha) registering a growth rate of 4 per cent per annum from 1980-81 to 1995-96. This is higher than the all India growth rate as well as that of China and Brazil. The production had gone up from 5.6 million tonnes in 1978-79 to 11 million tonnes in 1995-96. Karnataka’s share accounted for 10 per cent of the area and production during this period.

From the point of view of export, however, the states entry into the scene is comparatively recent. The export performance of the state is not very encouraging, considering the opportunities available. This is mainly due to lack of awareness of opportunities, lack of infrastructure facilities for quality products and motivation of producers and exporters alike. If these issues are addressed, the scope for export of agro products from the state is immense.

Presently, the state is exporting products namely mangoes, grapes, processed fruits and vegetables etc., since, fruits and vegetables are highly perishable, efficient post harvest management has become an absolute necessity. It is also important for effective exploitation of export potential of fruits and vegetables.

In Karnataka, only 2 per cent of the total production of fruits and vegetables are processed into different value added forms. About 25 per cent to 30 per cent of the produce is lost due to improper post harvest management. To avoid the post harvest losses a chain of cold storages, processing and marketing facilities need to be created. Among post harvest management practices like pre cooling, cold storages and refrigerated transport are most important.
The cold storage units provide a vital link between the production and marketing of horticultural produce. It helps in storing the horticultural produce during glut and making them available in off-season with least degradation in quality.

At present there are 54 Cold Storage Units spread over in 11 districts with a total storage capacity of 91,830 Mt, for handling fruits and vegetables, of these units, 11 are in the co-operative sector with the capacity of 9190Mt, 41 are in the private sector the capacity of 82,380 Mt and two are in the public sector with 260Mt capacity. The fruits and vegetables that are readily stored are Potato, Grapes and Pomegranate etc.

Government of Karnataka is considering fruit and vegetable processing sector as a thrust area for development. With growing urbanization and increasing quality consciousness, the market for processed fruit and vegetable is expected to grow rapidly. Therefore, there is enormous potential for developing agro products.

At present there are 1533 licensed processing units in the state with annual production of 2 lakh tones of processed products. The processed fruits are Mango, Grapes, and Oranges etc. The major vegetables processed are Tomato, Potatoes, and Gherkins etc.

Due to the introduction of the high yielding varieties, through the improved technology, and also due to commercialization, the productivity of horticultural crops has improved. Recently, efforts are being made by the Government of Karnataka, to boost-up the agricultural exports, mainly of horticultural produce like fruits, vegetables and flowers, through effective Agricultural Policies.
Table – 1.12 : Export Performance of Karnataka State in Agricultural Processed Food Products

<table>
<thead>
<tr>
<th>Commodity</th>
<th>2007-08</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee Products</td>
<td>1307.60</td>
<td>1579.05</td>
<td>1423.10</td>
<td>2184.04</td>
<td>3173.31</td>
</tr>
<tr>
<td>Cashew &amp; Cashew Kernels</td>
<td>527.05</td>
<td>638.48</td>
<td>644.18</td>
<td>586.76</td>
<td>882.21</td>
</tr>
<tr>
<td>Agricultural Processed Food Products</td>
<td>415.51</td>
<td>417.84</td>
<td>662.57</td>
<td>670.30</td>
<td>762.94</td>
</tr>
<tr>
<td>Spices</td>
<td>245.15</td>
<td>479.25</td>
<td>381.73</td>
<td>449.75</td>
<td>700.11</td>
</tr>
<tr>
<td>Gherkins</td>
<td>244.50</td>
<td>244.50</td>
<td>300.00</td>
<td>450.00</td>
<td>530.00</td>
</tr>
<tr>
<td>Total Agri Exports</td>
<td>2739.81</td>
<td>3359.12</td>
<td>3411.58</td>
<td>4340.85</td>
<td>6048.57</td>
</tr>
<tr>
<td>Annual change (%)</td>
<td>-</td>
<td>22.6</td>
<td>1.56</td>
<td>27.23</td>
<td>39.34</td>
</tr>
</tbody>
</table>

Source: Visvesvaraya Industrial Trade Centre (2012)

1.13 Institutions Working for Promoting Export of Agricultural Processed Food Products in Karnataka

The state of Karnataka has been one of the pioneer states in exporting of agriculture and horticulture commodities in India. A number of export promotion boards are working in Karnataka for the promotion of agriculture and horticulture produce. The major of them are:

1.13.1 Visveswaraya Industrial Trade Centre (VITC)

The Visvesvaraya Industrial Trade Centre is the designated Nodal Agency of the state for promotion of International Trade from Karnataka, registered under the Karnataka Societies Act. It is supervised and regulated by an autonomous body constituted by the Government of Karnataka.

VITC has been operational since 1965 under the aegis of Department of Industries & Commerce. VITC is the nodal agency for monitoring of ASIDE scheme in the Karnataka State. Ministry of Commerce, has introduced a new scheme, since 2002-03, Assistance to States for Developing Export Infrastructure and other Allied Activities (ASIDE), funds are allocated to states based on the export performance of each state and also its growth rate.
VITC is regularly conducting seminars, workshops and training programmes related to exports, organizing or participating in Trade Fairs or Exhibitions both at the National and International levels, sponsoring Trade Delegations abroad, counseling exporters, resolving grievances of exporters etc., and is working in close co-operation with Export Promotion Councils or Commodity Boards, Customs and other related Central and State Government Departments or Organizations to promote exports from the State. Several recommendations were made for the all round development of agricultural sector which includes horticulture and floriculture.

1.13.1.1 Objective of VITC

The objective of the scheme is to involve the states in the export efforts by providing assistance to the State Governments for creating appropriate infrastructure for the development and growth of exports.

States do not perceive direct gains from the growth in exports from the State. Moreover, the States do not often have adequate resources to participate in funding of infrastructure for exports. The proposed scheme, therefore, intends to establish a mechanism for seeking the involvement of the State Governments in such efforts through assistance linked to export performance.

1.13.2 The Karnataka State Agricultural Produce Processing and Export Corporation Limited (KAPPEC)

As per the recommendations of the Agricultural Policy of Karnataka to develop and promote the production, processing and export of agriculture, horticulture and floriculture products, government has established Karnataka State Agricultural Produce Processing and Export Corporation Limited (KAPPEC) on 22nd April 1996.

The main aim of the KAPPEC is to develop and promote the export of agricultural, horticultural and floricultural products. Since inception till 31-01-2008, KAPPEC has handled about 3, 07,029 metric tonnes of agricultural and
horticultural commodities valued at Rs 48,739 lakhs. In addition to grapes, KAPPEC has also exported Mangoes, Pomegranates, Drumstick, Watermelon, Red split lentils, Niger seeds, Menthe seeds, Coconuts, Onions, Potato, Chillies, Garlic, Coriander, and Turmeric to USA, U.K., Singapore, Sri Lanka, Malaysia, Middle-East, Turkey, Australia, Netherlands, Mexico, Brazil etc.

1.13.2.1 Objectives of KAPPEC

1. To develop and promote the production, processing and export of agriculture, horticulture and floriculture products.
2. To identify the modern technology for increasing the productivity, production, processing and storage of these commodities and to implement the same in the state.
3. To create post-harvest infrastructure facilities for the development and export of agricultural products (including horticulture and floriculture) and also to promote the private participation in this sector.
4. To establish processing units by KAPPEC or with joint venture participation with private entrepreneurs.
5. To supply agricultural inputs or technology required by farming community.
6. To undertake market research about the export quality products and disseminate of information to both the exporters and growers.
7. To conduct seminars, meetings involving farmers, scientists, bankers and other related parties to create awareness among them and also to educate them about the potentiality of agri exports.

1.14 Conclusions

Institutions are playing paramount role in exploiting the market opportunities for processed food products, development of competitive food processing sector can be made by establishing various specialized institutions for efficient backward and forward linkages to capture large-scale markets share and operations that would necessitate structural changes in the existing agricultural production, distribution and marketing system.
In this context, it may be noted that India was also setup several specialized institutions to sustain the growth in agricultural exports with realizing a need to shift the emphasis from primary to the processed food exports.

Govt.of India and state governments were setup in the form of commodity board, co-operating federations, export promotion councils, regulating authorities, trading corporation and economic zones.

For monitoring and boosting the production, consumption, marketing and export of various agricultural processed food products and commodities, prominent among them covered in this chapter are:

National level Institutions
- Agricultural and Processed Food Products Export Development Authority (APEDA)
- Coffee Board
- Spices Board
- Tea Board
- The Cashew Export Promotion Council of India (CEPC)
- Department Of Commerce

Institutions in Karnataka
- Visweswaraya Industrial Trade Center (VITC)
- The Karnataka State Agricultural Produce Processing and Export Corporation Limited.(KAPPEC)