Chapter - 1

INTRODUCTION
Agriculture sector plays pivotal role in the economic development of the country. The prosperity of the country depends on the prosperity of the farmers. Agriculture is a basic and important occupation, as it provides not only foodstuffs but also essential raw material to the industry. In the sphere of international trade and foreign exchange earning, the place of agriculture is very significant.

Among the various sectors, plantation sector occupies a strategic place in the agricultural sector. This sector is undergoing fundamental transformation to meet the challenges of factorization.

Coffee is one of the most important commercial crops of the tropics. It has tremendous significance in the world economy. Today coffee is the single largest commodity entering the international trade next only to petroleum products in the world. Hence it is aptly described as ‘Brown Gold’ (Selvaraj, A. and Gandhimati, P. (2003).

Coffee is one of the popular non-alcoholic beverages known to mankind for centuries. The complexity of coffee aroma enlivens all classes of people. As a beverage, coffee is more used in the homes of middle, upper and rich classes. This has become a necessity and any deprivation of it is considered as hardship. Coffee is offered to visitors in Indian homes, as a symbol of hospitality. It occupies an important place in social gathering, occasions, parties, celebrations, picnics, excursions, meetings etc. Coffee has become a friend to the young, a companion to the old and consoler to the dejected, who either drowns his sorrow in a cup of coffee or celebrates a piece of good news over it. For millions of people, dawn breaks only over a cup of hot coffee. Even though coffee is a pleasant and stimulating drink, for those people on marginal diets it can be considered as truly nutritious. The nicotinic acid content is significant in this aspect. However, coffee does provide a vehicle for the consumption of more nutritious additives and for
many people 'milky' coffee can provide an important source of energy, protein and certain micro-nutrients.

Coffee, is by definition, the classical tropical commodity produced to meet the tastes and needs of the consumer in the developed world. Coffee production is now spread over to nearly 80 countries across the globe, of which 51 are considered to be the major producers. Majority of these countries are developing countries, whose economies depend largely on coffee for foreign exchange earning. Brazil is the largest producer accounting for 26% of the total world production. Next comes Colombia with 14% of the production. In India, coffee occupies an important position among the export commodities, particularly in production sector. India is one of the major coffee producing as well as consuming countries in Asia. India occupies 2% of the global area and an average share of 4% of world production and 4.5% of international trade. India is a member of the International Coffee Agreement under which quotas are given to each country. The major varieties of coffee grown are Coffee arabica and Coffee Canephora (Robusta) (Hugessen, P. K., 1972).

History of Coffee

Botanically, coffee belongs to the genus coffea of the family Rubiaceae. There are more than 70 species under the genus coffea. Most of the species are natives of Africa including Coffee arabica and Coffee Canephora, which commercially cultivated. Another species, Coffee Liberica is grown to a small extent.

The province of Kaffa in Ethiopia is considered to be the original habitat of arabica coffee which was grown under irrigation in the province of Yemen over a number of years by the Arabs. They valued the plant for its fragrant flowers as well as its berries. Central Africa is reckoned to be the home of robusta.
The name of coffee is said to have originated from the Arabic word ‘kahwa’. Abendroth (1825) has noted the various names for the coffee drink in arabica ‘kahwa’, ‘kawwat’, ‘cavet’, ‘cohet’, ‘cofe’, ‘cohue’, ‘cahue’, and ‘cophe’, while the tree was called ‘bun’ and fruits ‘buna’. The generic name ‘coffea’ given by Linnaeus is a latinization of the Arabic names ‘caova’, ‘cova’ or ‘kahwa’ (Prashanth, V. and Nagesh, B., 2002).

Initially, the coffee beverage was prepared from green, un roasted beans boiled in water, in the late 13th century. The Arabians improved upon this tea-like beverage by roasting and grinding coffee beans before adding them to boiling water. A cup of coffee is prepared from the extract of ground coffee beans after they have roasted. The extract is made by adding hot water to the ground beans. Soluble (instant) and decaffeinated coffee is also available. Soluble coffee is made by evaporating the extract with out the loss of essential flavour. To make decaffeinated coffee, the caffeine is removed by treating the green coffee beans with a permitted solvent, which washes out the caffeine selectively.

Coffee is a small tree with many branches. It reaches a height ranging from 4.57 to 6.09 meters. The ripe fruit is red and contains two interlinked seeds which constitute the commercial coffee bean. Coffee arabica and Coffee canephora are commonly known an arabica and robusta respectively.

Arabica is a small tree and it looks like shrub or even bush. The leaves are dark green. Flowers are white pentamerous, situated in the axils of leaves. It is cultivated on a higher elevation, under the permanent and temporary shade trees. Robusta is a bigger tree than arabica with broader and larger pale green leaves. Flowers are white, fragrant and generally pentamerous. It is cultivated in lower elevation, with less shade (Debnath, N. and Sarkar, G.K., 1967).
Importance of Coffee

Coffee has become an important part of the dietary plan of many civilized people and of many aborigines. Because of its taste, coffee has come to occupy an important place as a beverage. Flavour is there in good quantity; there is a good colour and a healthy stimulus which, if reasonably indulged, is a valuable aid to good living. This makes for a mild habit formation that is easily erased. Its over use in only very rare cases, is of an injurious nature. It is well recognized by the young and old, by labourers, thinkers and dreamers. It helps mightly in the carrying on of the services among the world’s population.

The true purpose of this beverage, is to stimulate with good but harmless effect, to be a pleasure drink, to have a dietary recognition though not necessarily to add to caloric intake, to have long time acceptability, to be a drink that will appeal to human beings repeatedly, and one that they can have recourse to, over the years of their lives. Coffee accomplishes all this and, in addition, it does not result, as in certain other stimulants a ruinous feeling of depression. The effects of the coffee are benign but highly effective (Thomas, M.R., Navin B. Rytathiang, 2002).

According to studies by the U.S. army and others, beverages fall into three natural categories: the thirst quenchers, the stimulants, and those that are nutritious. Coffee has been classed in the second category as a stimulant of the first magnitude, and commercially it is the most important of the group that are infusions or decoctions. According to medical men, stimulants such as coffee are considered better, both physiologically and psychologically, than either tobacco or alcohol. It is significant that, in world commerce, coffee takes first place as one of the enjoyment goods, surpassing alcohol, tea or tobacco.
For sometime coffee has been and continues to be, among the five most important agricultural commodities in International World Trade. In many of the coffee growing countries, business with the rest of the world depends on coffee. In Latin America, this is especially true, for here seventeen independent republics and several dependencies grow large amounts of coffee. In atleast eight of these western republics, and in atleast four countries of Africa, it is the principal commercial crop. It is a main, and some say the most valuable, complementary agricultural product imported into the United States of America. This is, to a slightly lesser degree, the case also in certain countries of Europe (Fredrerick L. Wellman, 1961).

**World Scenario**

Coffee is grown widely throughout the tropics in about five million farms. The coffee growing countries can be broadly categorized into four regions viz., Africa, North America and Central America, South America, Asia and Oceania.

The leading coffee producing countries are Angola, Brazil, Colombia, Continental French, Africa, Costa Rica, Cameroon, Dominican Republic, Ethiopia, E L Salvador, Guatemala, Haiti, Honduras, India, Indonesia, Kenya, Mexico, Nicaragua, Peru, Tanganyika, Tanzania, Uganda, Venezuela and Zaire. Of these, Brazil, Colombia, Indonesia, Mexico and Ivory Coast account for 58% of the total world production (Harrman, R., 1984).

Coffee crop is an important foreign exchange earner, and the exports / imports are controlled by the International Coffee Organization which is a pioneer body of which majority of coffee producing and consuming countries are members, except for a few communist countries.

Major coffee importing countries in the world are United States of America, Germany, France, Italy and Japan which together account for 68% of the
total world imports. Coffee production in the world is in between 60 and 80 lakh tonnes and the increase/decrease in production depends on the monsoonic conditions. If timely rains for the flowering season fail, the cropping pattern will change. Coffee is grown mainly on slopes where rainfall is more than 50 inches per year. Generally coffee grown near the equator at higher attitudes is of better quantity.

It is estimated that more than 20 million people throughout the world earn a living from coffee. A majority of them are involved in its production and 40% of them consume coffee on a regular basis. Thus, coffee is extremely important in the economies of many countries and in world trade in general (Veena, U.M., 1992).

Coffee prices are highly volatile. No one knows with high degree of accuracy what coffee prices will be in few months or year from now. Until the harvest, the growers are not certain of the price they will receive for their coffee. This uncertainty makes every investment decision a different one for the grower before the harvest. A grower never knows whether the price at the time of harvest will cover his cost of production.

Indian scenario

Coffee in India is more than an agricultural export product. It is also a social, institutional and cultural fabric of southern states of India, in the heart of rural societies in traditional coffee growing areas. The two most important species of coffee grown in India are arabica (Coffea arabica) and robusta (Coffea canephora). India ranks 7th in area, 6th in production, 3rd in productivity and 6th in export with respect to coffee. India's share in global production is 4.5% (2000-01) and its share in global export is 4.7% (1999-2000) (anonymous, 2002). Among the ten colonial crops, coffee comes first with 26% share of the total world trade
value. Among the plantation crops, coffee contributes significantly to the nation’s economy, in addition to earning substantial foreign exchange for the country.

Coffee is one of the important plantation crop grown in India. The coffee industry is dominated by small growers who account for 98% of the planting community. In India, coffee crop is cultivated in an area of about 3.06 lakh hectares, with an employment potential of about five lakh people. The output is substantial enough not only for the country’s requirements but also for export (Vikas Singhal, 2003).

India accounts for only 4% of the total world output of coffee but exports 80% of its output. India’s coffee however, does not fetch good price in the market because of poor pest-harvest handling, lack of uniformity in quality and poor packing. India’s other milds is worlds best. It is used in premium coffee blends but still does not enjoy any brand or quality name as do the varieties from Kenya, Tanzania, Guatemala and Papua Guinea. There is a need to do some brand building work in this field to obtain some premium in price.

According to a legend, arabica coffee was introduced in India, during 1600 A.D by a Muslim pilgrim, Baba-Budan. He is reported to have brought seven seeds from Yemen, presumably mocha coffee, raised seedlings at his hermitage, Dattatreya Peeta, on the hills near Chikmagalur. Coffee seedlings gradually came to be planted in backyards and gardens of most of the neighbouring villages especially in Attigundi and then slowly spread to other areas (Abraham, J.M. and Simha, K.L., 2003).

In the economy of India, coffee is one of the major foreign exchange earners among the traditional items of export. Coffee occupies a place of pride among plantation crops grown in India. Cultivation of this stimulating beverage crop is mainly confined to the southern states of Karnataka, Kerala and Tamil
Nadu. It is also grown to a small extent in Andhra Pradesh, Arunachal Pradesh, Assam, Madhya Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Sikkim, Tripura and West Bengal forming the non-traditional belt.

Most of the coffee tracts of south India are under the influence of South West and North East Monsoons. The South West monsoon is more predominant in Kerala and Karnataka, where as North East monsoon is at Tamil Nadu. However mid November to April will be a dry period in the areas of South West monsoon. Further, the high temperature coupled with poor sub soil moisture during summer season substantially reduces the yield which has been considered as major limiting factors.

India’s coffee growing regions have diverse climate conditions, which suit for cultivation of different varieties of coffee. Some regions with high elevations are ideally suited for growing arabica of mild quality while those with warm humid conditions are best suited for robusta. Again, the vast spectrum of varieties of arabica and robusta available in India, express distinct quality features in the cup when grown under different agro-climatic conditions. In some regions, marginal and tribal farmers grow coffees with out any external inputs in an organic way. All these conditions make India as a super market for a wide variety of coffees to catering to the diverse needs of the specialty coffee market (Panduranga Vital, 2002).

Coffee in India is grown as a Silvi-horticultural crop under a tree cover for optimal yield. Cultivation of orange, pepper and cardamom in the middle of the coffee plantation serves as a source of additional income. Annual crops could be grown as inter crops amidst young coffee in new clearings to get some additional revenue in the initial years. Inter crop also suppress the weed growth in young clearings, but may compete with coffee for moisture and nutrients. Some of the inter crops like ginger and turmeric are commonly grown. Other annual crops like
cowpea, horse gram, beans, chilies, brinjal, pineapple etc., could also be grown for realising subsidiary income during early non-bearing state of coffee.

As an agro based rural enterprise primarily, this industry is a source of direct employment for about 4 lakh people in the area of cultivation, apart from providing indirect employment to many, in processing and trade sectors. Coffee cultivation is also instrumental in preserving the precious forest eco-system in traditional areas where coffee was introduced to check the Podu or shift cultivation and thus control denudation of forest and also soil erosion.

In India, coffee is basically a small grower's activity where 98% of the holding is below 10 hectares. Being a plantation crop, coffee has the potentially for providing employment for both skilled and unskilled labours. The plantations usually employ labour all round the year for one activity or the other.

Indian coffee is known for its quality and is exported to almost all countries in the world. It is being used for the purpose of blending with the coffee of other origins on the export front; India cannot remain isolated from the global stream. Although India's production accounts for barely 4% of the global production and 2.5% of the total world exports, 60-70% of the Indian production goes towards exports. The returns to the growers largely depend on successful marketing of the export surplus. It is therefore logical to make efforts to increase exports from India.

Production of coffee mainly depends on climatic condition and rainfall. Hence, poor rainfall is one of the important problems affecting coffee production in India. Pest is the major problem faced by them. Due to an increase in industrial activity in urban areas, people migrate from rural to urban centers, there by causing lack of agricultural labourers. Various factors affecting the coffee production were also analyzed during the study. The factors studied were climatic
condition, lack of finance, labour, lack of water, loss due to animal's movement, pest and rainfall (Vikas Singhal, 1999).

Arabica and robusta are the types of coffee cultivated on a commercial scale. The area under coffee is around 3, 28,157 ha (2003-04) of which arabica and robusta account for 48% and 52% respectively. The annual average production is around 2, 70,500 M.T (2003-04) a share of 4.5% of the world production and 80% of the produce is exported annually. Being an export-oriented commodity, it contributed nearly Rs. 1,033.22 crores of foreign exchange to the national exchequer during 2001-02 season (Anonymous, 2002).

In India, though coffee production is undertaken in 17 states, production is concentrated in the southern states of India. Karnataka accounts for (58% of area and 72% of production), Kerala (25% of area and 20% of production) and Tamil Nadu (90% of area and 70% of production). To a lesser extent, it is also grown in non-traditional areas like Andhra Pradesh, Orissa and North Eastern states to an extent of about 30,000 ha. The total coffee area is distributed among 1, 56,811 holdings of which 60% come under the small sector (< 10 ha). Coffee industry provides livelihood to about 5.5 lakhs people in India. Coffee is instrumental in preserving the previous forest eco-system in the traditional areas. Coffee development is aimed at the twin objective of social-economic development of the tribal and preservation of forest ecosystem by checking Podu or shift cultivation. India is a producer of both arabica and robusta variety of coffee in the proportion of 35:65. In India, Karnataka produces both arabica and robusta in almost an equal proportion, while Kerala specializes in robusta and Tamil Nadu in arabica. It provides employment to more than five million people in country among which majority is of plantation labourers. The total estimated labour requirement for yielding plantation of arabica and robusta are 495 man-days and 330 man-days per year respectively. Both small holders and estate produce coffee and the wide range
of production intensities and yields reflect this. Almost 98% of the total 1,78,300 coffee holdings are less than 10 hectares and accounts for 60% of the production while large - holder estates (over 10 ha), which accounts for about 30% of the total coffee acreage account for 40% of production. The main factors responsible for the steady growth of the coffee acreage are the high coffee prices during 1997 and 1998, along with liberalization of the coffee trade in the mid 1990s. These factors encouraged Indian growers to plough back part of their profits in upgrading plantations. This resulted in a steady growth in production and processing capacity (Babu Reddy, D.R., 2001).

In India, coffee was the only commonly marketed through a statutory organization viz., the Coffee Board. The coffee board was constituted under the coffee act (Act VII of 1942) of government of India. Coffee Board is a statutory organization working under the ministry of commerce for the betterment of the coffee industry. In the beginning it was referred to as Indian Coffee Market Expansion Board (1940) concentrating only on the marketing of coffee produced in India. The Coffee Board fixed a minimum release price for each grade of coffee sold internally and this was based on the cost of production incurred by the planters. The coffee allotted for the external market were sold throughout the year in an outlay manner to keep the prices stable the internal releases were made in four ways; (a) open auction pool sale (b) local sales (c) allotment to Co-operative societies and (d) through the propaganda of the board.

The initiative for the pooled marketing system came from the coffee growers due to the unstable conditions in the international market during the Second World War. The growers felt they can share and absorb the stocks in a better way if they pool their produce and sell. During that, there used to be a lot of variation in the receipts and large growers who were capable of exporting were able to receive higher prices for their produce. There was a lot of wastage in the
farm of charges for sampling, regabling, grading and polishing because of no standard grades. Later on the Coffee Board (1944) was made the sole custodian of the marketing of coffee both in the internal and international markets. Under various Departments, it was taking care of the interests of the producers and consumers and the research needs for the improvement in the quality and the output of the coffee. Under this system, it was obligatory on the part of the coffee grower to surrender all his produce to the pool and he used to receive his returns based on the quality and quality of the produce he pooled.

The complete pooled system which worked for over 50 years gave way to partial pooling system with the announcement of ISQ/FSQ. There was constant demand from the growers for partial depooling and this resulted in a allotment of 30% International Sale Quota (ISQ) in the year 1992-93. According to this, the grower was given the option of either pooling or selling on his own the 30% of his total produce. Following this FSQ (Free Sale Quota) was announced in the place of ISQ, through an ordinance to effect suitable amendments to the Coffee Act. This announcement gave the produce the choice of selling 50% of his produce on his own either in the inter market or outside the country. In the year 1996, 100% FSQ was allowed to the coffee growers. Now most part of coffee is sold directly to roasters, companies and exporters either directly or through purchase agents. A small portion is sold through auction, out of which 60% find its way to the export market and remaining 40% is absorbed in the internal market.

Under the pooled marketing system, individual estates lost their identity, as coffee delivered to the pool by producers, got bulked together and formed into convenient lots, according to certain parameters set by the board. The separate auctions for domestic and export markets were held. Whereas, in the free market combined auctions were introduced not only by the private sector but also by the board in respect of the coffee pooled. Thus domestic dealers and exporters stared
participating and competing with each other in the common auction. The monopoly of the board as a sole supplier of coffee to the entire trade came to an end. Producers became the sole masters of their destiny. They were free to sell their coffee either in uncured or cured form to the domestic dealers or exporters or if they so desired, enter the domestic market as retailers or register themselves as exporters and supply coffee to the world market. The free market saw the birth of commission agent and procurers of coffee for both external and internal traders. International prices as ruling in New York and London terminals became the benchmark for determining the level of prices at which all sales transactions were finalized.

The Coffee board fully diverted its marketing function; it is now for the Indian Coffee Board to play the role of a promoter to ensure supply of good quality coffee, both for domestic consumption as well as exports. This is possible only by the full participation of the growers (India’s Coffee Output, 2004).

Coffee in Karnataka

In India, Karnataka occupies the first place in production, followed by Kerala and Tamil Nadu respectively. In Karnataka the area under coffee plantation is 2,04,278 hectares (2002-03). The major coffee grown districts are Chikmagalur, Coorg, Hassan and Mysore. Coffee is also grown in some parts of Theerthahalli taluk in Shimoga district. In 14 taluks of Shimoga, Uttara Kannada, Chitradurga and Davanagere districts coffee is only a subsidiary crop under areca nut or coconut in about 1,240 hectares with 1,856 holdings.

In Karnataka about 26,100 hectares (2002-03) of land are under premium variety of arabica in Kodagu district. About 27,575 M T (2004-05) of arabica produced here, is considered as of best quality in the state. The yield of coffee here has gone up by 400 kg per hectare after the planters started adopting scientific
methods. Robusta is the largest variety of coffee produced in Karnataka. In Kodagu 68,625 tonnes (2002-03) of robusta are being produced from 56,250 hectares (2002-03) of land under this crop. The yield of arabica in Kodagu is 982 kg, in Hassan 757 kg and in Chikmagalur 789 kg per hectare and yield of robusta in Kodagu is 530 kg, in Hassan 1066 kg and in Chikmagalur 840 kg per hectare. The difference is mainly due to different agro climatic conditions.

According to legend, arabica coffee was introduced in to India some time during 1600 A.D by a Muslim pilgrim, Baba Budan. He is reported to have brought seven seeds from Yemen, presumably Mokka coffee and raised seedlings at his hermitage (Dattatreya Peeta) on the hills near Chikmagalur.

Coffee seedlings gradually came to be planted in back yards and gardens of most of the neighbouring villages especially in Attigundi. It is from these gardens the seedlings were introduced to Nalaknad in Coorg, which subsequently gave rise to the luxuriant Coorg plantations of today.

However, it was not until the late 1820s that commercial plantations were opened in South India with British enterprise and investment. The cultivation of coffee rapidly progressed during the next forty years. In 1856 there were only 7 British planters in Mysore. By 1869, their number had increased to 662 owning 8,094 ha of the then total cultivated area of 58,670 ha. Indian coffee soon established itself as out standing in quality and became a commodity second to none in the world market. The early pioneers seemed to have preferred the heavy rainfall areas for opening coffee plantations. Jolly of Parry and Company built estates during 1823-25 near Shimoga where rainfall is low.

In Chikmagalur, the earliest large-scale plantation (Mylemoney) was the established by Thomas Cannon in 1830. It is still in productive condition. Frederic Green started growing coffee Ignoor in Sakleshpur (Munzarabad) in 1843. He was
followed by Mockett, Jupp. Anderson and Elliot, a group of highly capable entrepreneurs who have left their imprints in this coffee district Yemmedoddi (Kadur).

Malabar Muslims brought seeds and seedlings from Dattatreya Peeta which gave birth to the earliest coffee garden in Nalaknad village in Coorg. Latter fowler near Mercara and fennel in Uligolly formed their estates in 1854. In 1855, Mann and Stewart opened estates near the Sampaje ghats. Suntikoppa, Balekadu and Yemmegundi were opened by Chisholm in 1860. In 1863, F. Mangles planted coffee in Abikutty. Coovercolly and Haleri. Koundinya was the pioneer of coffee production in the bamboo district of Coorg (Coffee Guide, 2000).

According to Elliot, the total area under coffee in Coorg alone had gone upto 11,331 hectares in 1856. In 1857, there were as many as 200 British planters in Coorg. The Karnatic Coffee Company Ltd., (1870) appears to be the earliest company cultivating over 1200 hectares in Coorg.

In Coorg, the first European planter to grow coffee on a plantation scale was Mr. Fowler, who opened the “Mercara Estate”, in 1854 A.D. However, coffee cultivation in that part of the country was exists long before organized cultivation on a plantation scale commenced. It is says that in the time of the Coorg Rajas, some Moplahs introduced coffee cultivation near Nalaknad with seeds obtained from Manjarabad. At first, its successful cultivation was kept a secret from the Coorg people but later on, through the exertions of Capt. Le Hardly, coffee cultivation became generally known to all and now there is hardly a single family which does not pride it self on a coffee garden (Ranjit Kumar, 2003).

Coorg is a best described as a paradise on the earth. Home to the brave warriors known as Kodavas, who have a unique culture, Coorg’s economy is intricately linked to coffee cultivation. The elevations range from 800-1200 m
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MSL and average annual rainfall of 1600-2500 mm. Being India’s largest coffee producing district, Coorg has the unique description of growing fine quality arabicas and robustas with highest productivity. The coffee plantations here are abuzz with Honey Bees, which yield the famous “Coorg Honey”. Coffee is intercropped with spices like black pepper, ginger etc. The arabicas have light acidity, slight flavour and intense aroma, while the robustas have softish and neutral with a hint of chocolate flavour (Coffee Cultivation in India, 1958).

Hassan district is situated in the southwestern part of Karnataka State and stretches towards the Western Ghats. The district had an eventful and rich history in the past. The coffee cultivation on commercial scale is confined to Sakleshpur (Manzarabad), Belur, Aldur and part of Arkalagudu taluk of Hassan district.

Manzarabad a small, distinct coffee pocket sandwiched between two largest coffee regions of the country viz., Chikmagalur and Coorg, Manzarabad is traditionally recognized as an arabica growing region. Manzarabad is famous for world famous sculptures of Belur and Halebeedu. Coffee was introduced into this region by renowned British planters, Robert Green and Robert H. Elliot. The region with medium elevation peaks (1000-1100 m MSL) and wide range rainfall from (1000-2500 mm) has the name as the best maintained arabica plantation under mixed shade. Even enterprising planters, always willing to experiment with new technology, craft best quality coffees. The coffees are known to have medium to full body, mild acidity, medium to intense aroma and pleasant flavour (Balakhrishna B. P., 2003).

In Mysore, coffee is secondary crop concentrated in Biligiriranga Hills. Biligiris is nestled in the luxuriant evergreen forest teeming with wild life. Biligiris has derived its name from the famous temple situated on these hills. Literally meaning white hills, the Biligiris is one of the high elevation coffee regions of India (1500-1800 m MSL) with moderate rainfall (1200 mm), always
soaked in the hanging mists. With only few thousand acres of coffee, Biligiris is famous for distinctly grown high elevation S.795 arabicas. Tended by mild shade of silver oaks and other fruit trees like oranges, coffee ripen slowly and accumulate full body, intense sweetish aroma with characteristic mild flavour (Aparna Datta, 2004).

**Coffee in Kerala State**

In the state of Kerala, the East India Company opened on an experimental basis a plantation at Anjarakandi, near Tellicherry under Mr. Murdock Brown, to whom they handed it over in 1799 A.D. The seeds from the above estate formed the nucleus, for extended cultivation in Wayanad under the guidance of Capt. Bevan in 1825 A.D. The opening of plantations on the Nelliampathies and in the Kannan Devan hills is of recent origin, mainly in the third quarter of the nineteenth century.

In Kerala, the major coffee growing districts or areas are Wayanad, Travancore and Nelliampathis. Waynad is one of the northern districts of Kerala state, renowned for wild life and exotic flora. It is also the largest robusta coffee producing region, with fairly gentle sloping hills of medium elevation (700-900mm MSL), heavy rainfall (2000-2500mm) and rich lateritic soils ideally suitable for fine quality robusta coffees. The small coffee holdings of this region represent a library of plantation crops with all kinds of spices and condiments cultivated with many staple foods like yams etc. The C x R and S.274 robustas of this region are known for softish to neutral in cup, full bodied and have very intense aroma with a tinge of chocolate (Wayanad Coffee, 2003).

Travankore situated in the south of Kerala, has two district coffee areas viz., Idukki which is a predominantly robusta area and Nelliampathy which favours both arabica and robusta. Idukki, famed as the silent valley, with medium
to high elevations (700-1100 m MSL) and medium rainfall (1500 mm) is a treasure house for all kinds of plantations crops spices as well as medicinal plants. The Nelliampathys are situated at an 1200m elevation of MSL and receive heavy rainfall (3000-3500 mm). Popularly known as ‘Nellis’ these areas are fast emerging as the single largest origin for the C x R variety of robusta, which are full bodied, soft, sweetish with hardly any bitterness.

Coffee in Tamil Nadu State

In the Tamil Nadu state, the first estate to be opened in 1795 A.D. was the Baramahal at Tirupattur in North Arcot district. This was followed by the opening of a plantation on the Shevaroys in 1830 A.D. by Mr. Cockburn. In 1840 A.D. Dr. Magrath, the residency surgeon at Mysore, sent coffee plants from there to M/S. Lascelles and Pope on the Niligiris, opened the Hardathorai Estate at Kotagiri. At about the same time Mr. D.Cockburn of the Madras Civil Service opened the Balahardal estate on the Kotagiri Ghat. This was followed by the opening of the Hudical estate in the following year.

In Tamil Nadu, the major coffee growing areas are Pulneys, Nilgiris, Sheverays, (Salem) and Anamalais (Coimbator). Nilgiris, known as ‘Blue Mountains’ is situated in the high ranges of Western Ghats with elevations ranging from 1000-1500 m MSL and rainfall of 1500 mm. The higher ranges of Nilgiris are famed for fine quality teas. The Nilgiris are also home for some of the best grown ‘Kents’ arabica. The high peaks, mild climate and hanging mists ensure slow ripening of coffee beans which are bold and bluish green, truly representing high grown arabicas. In the cup the Nilgiri coffee exhibit full body sharp acidity, striking aroma with mild flavour.

Pulney is a small district hill range adjoining the famed Kodaikanal hill resort in the southern to high elevation (800-1200 m MSL) and well distributed
medium rainfall (1200-1750 mm). A major arabica growing region predominantly inhabited by highly enterprising small planters, Pulneys region produce best quality arabicas like S.795, Slm.10 and Cauvery. Coffee plantations in this region are shaded by tall silver oaks and silk cotton trees and are greatly diversified with oranges, banana, pepper and vegetables. These high grown coffees possess medium body, medium acidity, slight flavour with characteristic citrus aroma (Raghuramulu, Y., 2002).

Sheveroys, a distinct hill range and a famed tourist destination, is bestowed with great peaks, lakes and scenic beauty of Sheveroys has having elevations ranging from 900-1500 m MSL with a medium rainfall (1000-1600 mm). The arabicas S.795, Slm.9 and Cauvery are grown, under the shade of silver oaks and mostly intercropped with oranges and pepper. The berries mature slowly to produce beans of bold size and typical bluish green colour. The brew exhibits medium body, good acidity and a slight flavour with a hue of spice (Coffee Region of India, 2003)).

Anamalais, home for numerous herds of elephants, are a separate range of mountains located in the southern tip of Western Ghats, with medium elevation (800-1300 m MSL) and medium rainfall (1500 mm). Anamalais produce small quantities of finely grown arabica with large beans having grayish green colour and balanced cup having intense aroma with citrusy flavour (Abraham Thomas, 2003).

Coffee in Other States

While the evergreen Western Ghats are cradle for flourishing coffee plantations, the tribal areas in the Eastern Ghats of Andhra Pradesh and Orissa are emerging potential lands for future expansion of arabica coffee in India Situated at medium elevation (800-1000 m MSL), these areas receive low to medium rainfall
(1000-1200 mm). Started by the local governments as a tribal rehabilitation programme during the 1960s, the coffee plantation activity in these states has come a long way in fulfilling the twin objectives of socio-economic upliftment of native tribals and conservation of environment the coffee areas represent renaissance of hard working and enterprising tribals who have successfully transformed the once barren hills into evergreen coffee plantations. Arabica plantation in this region are shaded by a wide variety of fruit trees like mango, jack fruit the silver oaks and carefully tended by ever earning native tribes. The survival instinct of these tribal has made them to opt for intense diversification of plantations with vegetables, fruit crops and spices. The coffee beans produced in this region have medium body, medium to sharp acidity and intense aroma with spicy tinge (Annapurnaiah, K., 2002).

The low mountains of the North Eastern region are also fast emerging as suitable areas for coffee expansion programmes. The coffee plantation activity is being promoted in seven sister states of North-East viz., Assam, Manipur, Meghalaya, Sikkim, Nagaland, Tripura and Arunachal Pradesh located in the south of Himalayas. Each one of them has a distinct culture and identity. In this region, coffee projects aim at socio-economic upliftment of native people as well as preservation of the fragile ecosystem. Though only small quantities of arabica are produced, the coffee has distinct features in cup with medium to full body, mild acidity, characteristic fruity note and pleasant aroma (Ananthakumar, A.P. and Midul K. Gogoi).

Coffee in Chikmagalur

The Chikmagalur district was the first to grow coffee in India. The cultivation of coffee has an eventful background. It is said that arabica coffee was introduced about 1670 A.D. by Baba-Budan. He is reported to have brought seven seeds from Yemen, presumably mocha coffee, and raised seedlings on the hills
near the Dattatreya Peeta village in Chikmagalur taluk. Later, coffee seedlings gradually came to be planted in the backyard and gardens in the neighbouring villages, particularly Attigundi. It was from these gardens that seedlings were supplied to Kodagu, Coorg) district of Karnataka and to the neighbouring state of Kerala. Nurseries around Attigundi villages continued to supply seedlings for a number of years to various parts of South India. It was only in the late 1820s that commercial plantations were opened in South India. British enterprise Mr. Jolly of Parry and Company seems to have started the first coffee plantation in the state, in the neighbouring district of Shimoga in about 1823-25. In Chikmagalur district, the earliest large-scale plantation was established by Thomos Cannon in 1830 and it is called Mailimane Estate and is still in a good condition. A few years later, Mr. strokes laid out a coffee garden in 1835. This caught the imagination of a few in the district who made sporadic attempts to follow suit. In 1843, Fred Meppen opened estates near Yemmedoddi of Kadur taluk.

The earliest coffee grown in Chikmagalur district was called chic deriving its name from Chikmagalur. Due to continuous failure of timely rains for three years, the Chic variety was attacked by borer in 1865 and the vigor of coffee plants declined. It was stated in the report of surgeon George Bidie that the attack of borer was prevalent for thirty years. It was severe during the last ten years of that period. When it was thought that the Chic variety would get extinguished, Stanley Jupp brought coffee seeds from Kodagu in 1870. Encouraged by this, several planters in the district took to planting Coorg coffee, and the coffee estates were revived. There was always a premium price for Mysore coffee. In 1869, leaf disease and pests appeared, and in a few years they destroyed many coffee plants. The coffee growers in the 19th century thus struggled hard to see that coffee was not extinguished. The production declined and the cost of cultivation increased (Gazetter of India, 1981).
The UPASI (United Planters Association of Southern India), which was formed in 1893, stressed the need for research in coffee. Recognizing this need, the then Maharaja’s Government opened a research station at Balehonnur. Due to depression in 1930s, there was a slump. During the Second World War, the foreign markets were closed and the extent of area under coffee also decreased. In 1937, the Government of India appointed a coffee cess committee with a view to help marketing of coffee. The Central Government realising that, there should be control on the inland and foreign markets of coffee, formed in 1940, a Coffee Market Expansion Board which later became the Coffee Board in 1941. The area under coffee cultivation as also the number of coffee estates, have gradually increased in the district.

Chikmagalur is known as Coffee Country of India, is an abode of thick jungles, wildlife sanctuaries and large coffee plantations as well as the hub of coffee research in India. The Central Coffee Research Institute is set up here. The region receives medium to heavy rainfall (1500-3000), with moderate elevation (700-1200m MSL). The arabica variety like S.795 is carefully nourished under a two-tier mixed shade, comprising of *Erythrina lithosperma* as lower canopy and the *Albizia* sp., *Ficus* sp., *Terminalia bellarica* as top canopy, in a traditional way and often grown amidst spices like pepper, cardamom, vanilla etc. (Radha Krishnan, S., 2001).

Chikmagalur district produces both arabica and robusta variety. Chikmagalur region accounts for about 87,038 hectares (2003-04) comprising 57,470 hectares of arabica and 29,568 hectares of robusta spread over in 15,166 number of holdings. Chikmagalur gets the first place in the case of arabica planting with 57,470 hectares, the next being Kodagu (26,100 ha). In the case of robusta, Kodagu gets first place (56,250 ha), Chikmagalur gets second place (29568 ha) (2003-04).
Chikmagalur is located mainly over coffee growing tracts of Chikmagalur district. Coffee a major plantation crop in Chikmagalur, Mudigere, N.R. Pura and Koppa taluks. In Tarikere, Sringeri and Kadur coffee is a secondary crop and also an associated crop with areca nut and coconut. The number of coffee growing villages in Chikmagalur region- taluk wise is as follows: Chikmagalur-89, Mudigere-136, N.R.Pura-21, Tarikere-08, Koppa and Sringeri-16.

In Chikmagalur lower elevation pepper is the main associated crop with coffee. Areca nut is also cultivated in parts of Koppa and Kalasa areas. Cardamom is becoming a major crop in the district. Tea and rubber is an associated crop in N.R. Pura and Koppa taluk to some extent. Vanilla is getting prominence in the region and the planters are trying this diversified crop very enthusiastically.

The Chikmagalur district stands first in Karnataka, and also India in the extent of area under coffee as per the registration certificates. The district also occupies the first place in respect of average area under coffee cultivation 25-30 acres and above...

The present study is conducted regarding different types of coffee cropping systems with the following specific objectives. The major objective of the proposed study was evaluating the economies of coffee plantation in the region. The specific objectives of the proposed study:

1. To study the trends in area, production and productivity of coffee in Chikmagalur district and also in the state of Karnataka with a view to analyse the commercialization of plantation crops or growth of capitalistic farming of commercial crops.

2. To study the viability of coffee farming and estimate the average cost of cultivation of coffee, production, productivity, income received and input-output ratio in Chikmagalur district.
3. To derive the implications of coffee farming on standard of living and social
development of coffee planters.

4. To study how international variations in coffee prices affect Indian coffee
cultivation and marketing.

Hypotheses

The following hypotheses are tentatively framed for testing in the study:

1. The area under coffee cultivation is directly related with international coffee
   price variations.

2. The area, production and productivity of coffee farming has increased
   significantly in Chikmagalur district.

3. The existing market price of coffee is not favourable to the planters.

Limitations of the Study

1. The study pertains to the agriculture year 2005-06 and is limited to 240
   randomly selected planters. Hence, various conclusions drawn and the
   explanation of various aspects of the problem have been based on behavior of
   the sampled planters and the availability of data during the study period. The
   respondents were not in the habit of maintaining records of their income and
   expenditure. The entire information was provided by recollecting the past
   events by the planters.

2. The study includes primary and secondary data.

3. The present study being a student research has the limitation of being
   restricted of to only one district of Karnataka. Therefore the findings have to
   be viewed in the specific context of the condition prevailing in the area of the
   study and cannot be generalized for the entire state. Thus, the results of the
   study can not be generalized.
Presentation of the Study

The study has been presented in seven chapters as indicated below.

Chapter-1. Introduction

Chapter-1 deals with the nature, importance and objectives and hypotheses of the study.

Chapter-2. Review of literature

Chapter-2 describes comprehensively a review of literature the relevant research work done in the past related to the present study.

Chapter-3. Methodology and Data base

Chapter-3 details the description of the study area, nature and source of data, the tools and techniques of analysis adopted for evaluating the objectives.

Chapter-4. Profile of Chikmagalur District

Chapter-4 deals with the socio-economic background of Chikmagalur district.

Chapter-5. The Coffee Cultural Practices and Promotional Schemes

Chapter-5 analyses the cultural practices for coffee in the Chikmagalur district and also schemes for coffee planters by the Government.

Chapter-6. Results and Discussion

Chapter-6 is devoted to the presentation of the results in tabular form into which relevant details have been compressed and the findings of the study are discussed in this chapter.

Chapter-7. Summary and Conclusion

Chapter-7 provides summary of the whole study and appropriate conclusions and policy drawn for the development of coffee economy.
References


