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THE COFFEE CULTURAL PRACTICES AND PROMOTIONAL SCHEMES IN GLOBAL ERA

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Abstract

Care has to be taken in the selection of fields for coffee cultivation in order to obtain a tract well sheltered by nature from undue exposure either to the southwest or the east wind. The area should be in the zone that is favored with as large a share as possible of the March and April showers and yet not visited by two heavy rains of the south-west monsoon. The coffee plant rejoices in a damp, warm temperature at elevations from 2,500 to 3500 ft. above the sea level. But it can grow under certain circumstances at elevation both below and above those elevations also. A good loamy soil of any colour, with a good deposit of vegetable matter on the surface and not much rock underlying it, is requiring.

Consumption of coffee both at domestic and international market was almost stagnated. In this regard promotion, consumption both in coffee producing and consuming countries as well as, in emerging markets is really a good long term solution that will mitigate the effect of global glut. Strong internal market should be created by resorting to coffee promotion by aggressive methods, by making available good quality coffee throughout the country that increases coffee consumption.

Keyword: Coffee promotion. Cultivation, Consumption and International Market.

Introduction

Chikmagalur district was the first to grow coffee in India. The cultivation of coffee has an eventful back-ground. 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. It was from this garden that seedlings were supplied to Coorg district of Karnataka and to the neighbouring state of Kerala. It was only in the late 1820s that commercial plantations were opened in south India by British enterprise.

The climate of the district, which is situated in the hilly terrain where coffee, tea and other plantation crops are grown, is very agreeable and cool. The temperature varies fi^om 8.3 to 35.6° C. The humidity is very high in the monsoon generally exceeding 90%. Fog occurs on many days in the cold season in the western parts of the district even in the monsoon and post monsoon season. The hilly areas are often enveloped in cloud or mist. The rainfall in the district varies from 2000mm to 3500 mm. About 79% of the annual rainfall in the district is received during the northeast monsoon months i.e. from June to September.

Soil of Chikmagalur district coffee zones is red loamy in nature. Soil occurring in the valley or ghats is texturally loamy or silt loams. These are generally deep to very deep and clay content increases down the profile. Occasionally shallow gravelly red soil is also seen. These soils are fairy well drained in the uplands and water logged in low lying areas. Coffee soils of Chikmagalur district are subjected to intense leaching. In Chikmagalur acidic soils are distributed in about 4,87,850 hectares of land. However, only 40% of area is being cultivated. These soils are lateritic in nature. Coffee soils in Chikmagalur district suffer from deficiencies of Magnesium, Sulphur, Phosphorus, Molybdenum, Zinc and Boron. The soil in this area is rich in organic matter. The main crops grown in this area are coffee, tea, pepper, areca, coconut, sugarcane, paddy and fruit crops (Kamataka State Gazetteer Chikmagalur District, 1981).

The coffee plant

Coffee of commerce includes two species *Cqffea arabica* L. and *Coffea canephora* pierrie. Other species are *Coffea liberica* and *Coffea excelsa*, which are planted on borders or along boundaries of coffee estates.

Arabica Coffee *(Coffea arabica* L.)

Coffee arabica is a tetraploid species (2n=44).Under natural condition, it grows into a small tree about 10 metre. It comes to bearing at 2 or 3 years. The number of seeds in a kolo gram of berries is 2636.

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Caffeine content of processed berries is 1,47%. The problem with arabica coffee is dropping of ripe berries.

Arabica varieties Selection l (Sel-l)

During 1936-37, the institute released S-288 which was superior to earlier varieties because of its resistance to leaf rust *(Hemeleia vastatrix)* race I and II. This variety is a tetraploid hybrid derived from S-26 which is supposed to be a progeny of natural cross between *Coffea liberica* and C. *arabica.* Though the variety is a high yielder with quality similar to arabica, seed abnormalities are very frequent. However, because of its wide adaptability to varied agro climatic conditions, this variety is still being cuhivated in some estates.

Selection 3(Sel-3 ir S-795)

It is a cross-bred line of S-228 x Kent variety. Kents is a selection made by Mr. Kent, a planter. It is resistant to race II of leaf rust and has bold fruits and seeds of good quality (Narasimhaswamy, 1960).

Selection 5 (Sel-5)

It is derived from the cross Devamachy x S-881 (wild arabica from Rume, Sudan). Devamachy is a spontaneous hybrid of robusta x arabica, spotted in a private estate in Coorg. It has small oblong leathery leaves, oblong fruits and seeds. It shows field resistance to leaf rust.

Selection 6 (Sel-6)

A hybrid between robusta and Kent arabica. Larger plants with robusta type of branchmg. Fruit is medium to bold. 'B' grade and elephant beans are low. A spacing of 2.7 x 2.1 m is sufficient. Bean and cup quality is similar to arabica.

Selection 7 **(Sel-7)**

Derived from San Ramon (a dwarf arabica variety) crosses. Selection 7.2 is a cross between dwarfs of 7.1 and Agaro. This hybrid was obtained when it was crossed with hybido-de-Timor, Selection 7.3. Cup of quality is as in arabica; 1.2 X 1.2 m spacing can be adopted. This hybrid can be grown as an intercrop with robusta, till the later fully spread.

Selection 8 (Sel-8)

It is a pure line selection of hybrid-de-Timor (HDT). HDT is a spontaneous robusta x arabica hybrid from Timor Islands. Its phenotype closely resembles arabica types, and has highest resistance to leaf rust. It is suitable for all localities.

Selection 9 (SeI-9)

Cross-bred line of hybrido-de-Timor with other arabica varieties. Hybrido-de-Timor x Tafarikala line is drought hardy. Bean is medium to bold. About 70% of plants in the progeny are resistant to rust.

Selection 10 (Sel-10)

Progenies of Caturra x S-795 and Agaro. Vigorous plants with good spread. Resistant to many of the races of rust. Good yieider and early bearer. Spacing required is 1.8 x 1.8 m.

Kaveri

This hybrid variety is the result of collaborative research work carried out by the CCRI, India and Coffee Rust Research Centre, Portugal. Kaveri is a cross between Caturra and Hybrido-de-Timor. It is capable of producing more percentage of 'A' grade coffee which is also superior in cup quality.

San Ramon

San Ramon is a variety in arabica isolated in plantations in Colombia. The variety is characterized by small compact size and growth (Farooqi and, A.A. and Sreeramu, B.S).

Root system

Root system of arabica consists of a thick and short tap root extend 45 cm below the soil surface, axial roots growing vertically down ward to a depth of 2.5 to 3.0 m and branching out in several directions and lateral roots usually confined to layers parallel to soil surface to a distance of 1.3 to 2.0 m from the trunk. Major part of the root system is concentrated in the top 30 cm layer and distributed in a circle of diameter 1.5 m around the trunk. In arabica, 94% of coffee roots are present in the top 30 cm of soil.

Fostering and Fruit Set

Flower buds and their dormancy

Initiation and growth of flower buds take place from the month of September to March. Bud dormancy apparently constitutes a strategy to ensure
uniform blossoming. A period of dormancy is associated with a drought period to complete some subtle physiological or morplological events that make the flower bud ready to respond to external stimulus to resume growth and react quickly to water.

Uniform blossoming mechanism

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Place of blossoming is restricted to new wood only. Blossoming of arabica coffee occurred only when there was a temperature drop of 3°C or more with in a period of not more than 45 minutes. Arabica coffee is self-compatible. In arabica, flowers open in the early morning and pollination occurs in the morning

Fruit dormancy, size of beans and rainfall requirement

The fruit will remain as pinheads for a period of 6-8 weeks, due to dormancy offered by high levels of endogenous abscissic acid and low levels of active gibberellic acid. The size of bean is determined by the swelling of beans triggered by amount of rainfall during the 6-16 weeks long expansion stage. The heavy seed endosperms are formed between 12 and 18 weeks after blossoming with a marked increase in endogenic gibberellic acid levels.

Fruit growth

Fruit grov^ pattern in arabica coffee follows a double sigmoid type. Five development stages of coffee fruits are recognized as pin head stage, rapid grov^h stage, endosperm-filling stage, pericarp development stage and ripening stage. It takes 34 weeks from blossoming to ripening of fruits. After 30.35 weeks from blossoming, chlorophyll is lost and ethylene is produced making the berries red in colour. Large sink strength of coffee seed endosperm ensures maximum storage of assimilates.

Critical period of water requirement is at rapid fiiiit expansion stage. Reddy and Srinivasan (1979) reported that number of fruits per node is an important yield component. Vasudeva and Rathageri (1981) reported that 20 cm^ of leaf area is needed to support each fruit in arabica coffee, though coffee is able to set more fruits than it can sustain (Chokkanna, N.G., 1962).

Robusta coffee {*Coffea canephora* Pierrie.)

Coffea canephora Pierrie is a diploid species (2n = 22). It forms a bigger bush than arabica (upto 8-9 m) with robusta growth under natural conditions. Flowers are fragrant and self-sterile and leaves are broad, large and pale green. Bearing age is 3-4 years. Plants can hold berries after ripening also. It takes 40-44 weeks from blossoming to ripening of fruits. Hence, the harvest season occurs two months later than for arabica. Seed size is small and for making 1 kg, 3500 berries are needed. Caffeine content is 2.2% and hence, this species is usefiil in making instant coffee.

Robusta varieties

Coffea canephora (Robusta) was introduced in India, after the appearance of leaf rust on arabica. Robusta coffee is highly cross-pollinated. Twelve high-yielding mother plants were selected from private estates and their seedling progenies were established at CCRI in 1932. Study on their yield pattern gave way to the progenies viz., S-274 and S-270.

SeI-1 R (Sel-274)

This is a single plant progeny giving high yield. It can come up well even at lower elevations and high percentage of plants are resistant to leaf rust. Grov^h is vigotous but with shallow root system. S-274 is bold-fruited and has recorded 960 kg green coffee per hectare. Growth floral initiation, development and blossoming in this selection are similar to other robustas.

Sel-2R (Sel-270)

This is also a single plant progeny selection of robusta giving high yield, but fruits are not so bold as Sel-1 R.

SeI-3 R

This is an inter specific hybrid having compact growth, yielding bolder fruits. In addition to above cultivars described, Sel-4,8 and 11 were also released for commercial cultivation depending on the local adaptability in different coffee-growing areas.

BR (Balehonnur Robusta) series: Clonal progenies established from high-yielding individual plants of S-267 to S-278 robusta selections have been released under the BR series. These are designated as BR-1 to 17 among which seeds from high yielding clones, viz., BR-9, BR-10 and BR-11 are being distributed for commercial cultivation.

Root system

Robusta coffee is shallow-rooted than arabica. Nutman (1933) reported that the top 15 cm of soil has maximum root concenfration. Roots spread largely in upper soil layers and there is a distinct taproot. Thomas (1944) reported from Uganda that when robusta trees were mulched they responded readily and produced extraordinary root growth in the surface layer as well as in the mulch.

Shoot system

In robusta, head of the series buds does not exist in all leaf axils. A trend toward regrouping of secondary branches from certain first order branches and floral axils is seen. Raju (1975) observed that

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plagiofropic cutting give rise to orthotropic sprouting. A successful technique in inducing orthotropic shoot emission is beheading of the plants in robusta coffee.

Flowering and fruit set

Flower bud dormancy and blossoming mechanism

Robusta coffee has the habit of irregular flowering and formation of flowers in clusters. November to February is the period of flower bud initiation. Precipitation during February-March is ideal for blossoming. Blossoming occurs on the 7* or 8* day after rains and site of blossoming is new wood.

Fruit set and fruit growth

Robusta coffee is self-sterile. In robusta coffee, fruit setting ranges from 20 to 25%. Setting of fioiits in coffee depends on number of flowers, number of leaves on the plant, flower atrophy and environmental factors such as heavy rains on the day of blossom and/or at anthesis. Fruit set also varies with flower position, the higher the position in the bush, the larger be the percentage of fruits. Growth pattern of Suits of robusta is reported to be linear or sigmoid type of increase in fresh and dry weights.

Cultural Practices for Coffee

Care has to be taken in the selection of fields for coffee cultivation in order to obtain a tract well sheltered by nature from undue exposure either to the southwest or the east wind. The area should be in the zone that is favored with as large a share as possible of the March and April showers and yet not visited by two heavy rains of the south-west monsoon. The coffee plant rejoices in a damp, warm temperature at elevations from 2,500 to 3500 ft. above the sea level. But it can grow under certain circumstances at elevation both below and above those elevations also. A good loamy soil of any colour, with a good deposit of vegetable matter on the surface and not much rock underlying it, is required.

There are varieties of land in Chikmagalur district in which coffee has been planted, such as the ordinary forests, the heavy ghat-forests and village jungles or land, the original timber of which was cut and them followed by a secondary growth of trees of a smaller type. Some of the finest coffee estates have been formed on lands of the first and third varieties of forests mentioned above which have the decided advantage. Over all other descriptions of possessing a rich deposit of decayed vegetable mould that has not been exposed to atmospheric influences and hence contains an almost in exhaustible store of organic and in organic constituents available as food for coffee plant.

Large trees that have a thick foliage in the hot weather and little or none in the monsoon are kept as shade at regular distances, attention being paid to leave fewer trees on portions with a Northern aspect than on those facing the south, all quarters exposed to the wind especially requiring protection. Lines of pegs generally 1*V2* IY2* IY2.* This is done to remove obstacles to the roots of the young plants, and to make a nice loose bed for their reception. For nurseries, convenient situations with facilities for irrigation or with river or tank frontage are selected and entirely cleared of trees, the soil being dug to the depth of two feet or more and every root and stone removed. This is then laid out into beds, generally about four feet wide, separated by paths and the whole field well drained and put in order with the same care as needed for a flower garden. Manure is applied and the beds are then cut up into furrows six inches apart in to which the seeds are placed about one inch apart. The whole bed is then covered up with dry leaves or straw and watered by hand, care being taken to maintain a uniform rate of moisture which must not be excessive. The seed germinates in six weeks and fi-om the bean which is raised on a slender green stem of about eight inches in height, burst forth in to two small oval leaves. These two-leafed seedlings are pricked out in to beds at either 4 * 4 or 6 * 6 inches. They require at least eight to fourteen months, with constant attention and watering, forming into good plants.

Coffee beans are generally used as seed material. Carefully prepared seeds are germinated in seedbeds and after four to six weeks seedlings are transplanted in to polythene bags. Seedlings of about seven to eight months old are selected for planting in the field. The main season for planting extends from June to August in south-west monsoon zones. Disease free and healthy seedlings are selected for planting.

Planting Distance

The distance at which the plants are planted in coffee clearings plays a great part in determining yield. It has noted that too close planting may give large crops in the earlier years, whereas greater spacing provides better scope for growth and thus a better yield in later years. The best planting distance for each locality has to be found by experiment.

Planting

Planting is done in the months of June, July and August. The plants, being carefully removed from the beds and the roots trimmed, are planted with a spade or planting staff by a regular team of experienced men. Under favourable conditions, the plants are ready for topping in the second year. A topping staff duly

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marked to the proper height, is placed along side of the young tree and the top or head and one primary branch are removed, for directing the sap in to the primary branches and making them throw out secondary shoots which comes from each eye along the branch. An abundance of vigor has the effect of forcing out a number of shoots under the junction of the upper primaries with the stem and also from the stem at various places. The first crop generally appears in the third year, and consists merely of a few berries on the primary branches aggregating about one mound per acre. In the fourth year, a return of one cwt per acre may be expected. It is not until the seventh or eighth year that the planter is rewarded by a full crop exceeding five or six cwts per acre.

Irrigation

In most coffee growing countries, there is a dry period; if this is prolonged or if the precipitation in the previous rainy season has not been sufficient, coffee growth is adversely affected. Serious drought causes loss not only of current crops but also of those expected during the next few years. Irrigation by ditch or flooding or by overhead sprinkling helps to tide over these difficulties. Inadequate blossom showers or backing showers can be compensated by irrigation and make all the difference between success and failure.

Sprinkler irrigation is the most versatile method of irrigation to supplement natural rainfall for growth and blossoming of coffee. Robusta coffee being sensitive to drought will respond well to sprinkler irrigation. Sprinkler irrigation increases the length of laterals and number of nodes and intemodal length. It also increases leaf area by 45%. If irrigation is restricted to blossom and backing 48 to 57% yield increase is assured, whereas irrigation throughout drought period increases yield by 80 to 90% in robusta.

Fertilizer application

The nutrient requirement to produce one ton of clean coffee (6000 kg fruits of arabica or 5000 kg of robusta) is roughly 40, 3 and 40 kg of N, P2O5 and K2O, respectively and the fertilizer needs are 3 to 4 times more.

For coffee plantations having yield range of 500, 750, 1000 and 1250 kg ha', different quantities of 60:45:65, 90:60:90, 120:90:120 and 130:100:130 kg ha"'. Of N, P2O5 and K2 O respectively are recommended by CCRI. Optimum dose to get 1000 kg of clean coffee was recorded as 90-160, 80-120 and 160 kg of N, P2O5 and K2O by Jayarama and Ramaiah, 1988. They reported that fertilizers requirements are lower for coffee under shade than with no shade or little shade as flowering and production are limited by shade and due to contribution of nitrogen by leguminous shade trees and by keeping other nutrients in circulation. Dose of fertilizer for economic optimum and maximum yield also have been arrived at by them as 154:117:154 kg and 271:204:271 kg of N, P2O5 and K2O, respectively. For arabica coffee yielding more than 1 t ha"' and less than 1 t ha"' the dose are 160:120:160 kg and 140:90:140 kg of N, P2O5 and K2O, respectively .The same **for** Robuta coffee is 120:90:120 kg and 80:60:80 kg N, P2O5 and K2O, respectively (Anil Kumar, 2002).

Harvesting

The coffee fruits should be picked as and when they become ripe. Coffee is just ripe when on gently squeezing the fruit between the thumb and fore finger, the bean inside with the parchment skin pops out easily. Under-rope and over-ripe fruits cause deterioration in quality, the former producing immature beans which are usually coated and the latter 'foxy' coffee. If for many reason, it is not possible to pick the coffee as and when it ripens, the un-ripe and over-ripe fruits should be sorted out and only the just ripe fruits used for pulping. Coffee fruits dried on the trees and the over-ripe fruits may be dried together to produce whole-crop cherry. The green and under-ripe should be separately dried and mixed with stripping.

Drying Process

C. *arabica* has to be dried differently from C. *robusta* as the results desired in the two cases are not the same and the two react differently at any given temperature. Robusta can be dried rapidly, the final moisture content being about 8%. Arabica on the other hand should be dried more slowly, the final moisture content being about 10%.

The berries are passed through the pulper with a stream of water either the same day or early next morning. The outer skin being thus removed the beans are allowed to ferment for twenty or twenty four hours, with out water to facilitate the removal of saccharin matter which surrounds them. After the mass has been washed and well stamped out, all light beans and skins being carefully separated, the beans are removed to the draining mats where they are constantly turned over and allowed to dry for a day or more until all water gets drained off. They are then spread out thickly on the drying ground in order to dry slowing. This is an operation requiring constant attention for six or eight days.

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The beans should not be dried too thinly spread or too suddenly exposed to the rays of the sun as they are opt to become bleached and bent a drying ground protected by large trees is considered the best one as shade and sum are available. When the beans are sufficiently dried, they are put in to bags and dispatched outside. The yield of an estate that has been well maintained in cultivation may be put a six to ten cwts per acre. An accurately calculated estimate shows that in a series of years, the crop is more frequently below six cwts. But the yield varies in different places (Chokkanna, N.G., 1965).

Coffee Board

Before the constitution of the Coffee Board, marketing activities in regard to coffee were looked after by an organization which was know as of Coffee Cess Committee which was formed to safe guard the interests of coffee growers and to regularize the supply of coffee to the markets in India with a view to helping the Coffee industry and to develop it further, the Coffee Board has representatives of several interests comprising coffee growers, plantation workers, coffee curing workers, traders consumers, three members of the parliament and member representing the governments of coffee-growing states of Kamataka, Kerala, Tamil Nadu and Andhra Pradesh. The latest reconstitution of the board was done in 1978 and it consists of 32 members. The Coffee Board has its head quarters at Bangalore. The chief functions of the Board include promotion of sale and consumption of coffee with in and outside the country, promotion of agricultural and technological research in the cultivation of coffee and assistance of coffee estates for their development. The Board also aims at securing better working conditions, amenities, incentives and remunerations for the Workers; the Board is empowered to appoint several committees to carry out the programmes effectively.

Under the coffee development plan launched by the Board in 1956, the Board offers several categories of loan assistance to coffee growers to enable them to adopt improved methods of cultivation on scientific lines. The loan schemes of board include long-term loans, special purpose loans, working capital loans and loans for equipment and machinery, replanting loan-cum-subsidy and extensive cultivation. The present system adopted by the board in marketing of coffee is known as the pool system under which all coffee-growers, irrespective of their sizes of holdings, are under a statutory obligation to register their estates and to deliver their entire crop to the pool, except such quantities as may be permitted by the board for growers domestic consumption and seed purpose. Payment to the growers, on the coffee pooled, is made on the basis of their values as determined by the prose differential scale fixed by the board for the crop season. The pooled coffee is sold in the internal market, and export is made through convenient channels in regulated quantities and at convenient intervals. Under the above system of marketing, all coffee curing establishments are licensed by the board only. A number of pool-collecting depots at convenient center in all coffee growing areas have been opened by the board, in addition to appointing a number of pool-agents who receive, cure and prescribe standards and arrange to deliver the pooled coffee to the parties to whom the board has sold. The agents also collect the values from the buyers on behalf of the board and carry out all instructions issued by the board. The agents are paid remuneration for their services. The sale proceeds of the pooled-coffee forms a part of the pool-found which is utilized for making payments to the growers in accordance with the quality and quantity of coffee delivered by the growers to the pool and also for meeting the costs of pool administration. Generally, the price policy adopted by the board is principally based on the cost of production of coffee worked out by its statistical department every year and taking in to account pool expenses, excise duty, etc. is to be approved by the Central Government. Normally, coffee is not sold in auctions at prices below this price.

Central Coffee Research Institute

The Central Coffee Research Institute, formerly known as the coffee experimental station, Balehonnur, was started in 1925 under the stewardship of the late Dr. Leslie C. Coleman. It had in the beginning 19acres at land and had the primary objective of breeding rust resistant selections and of conducting research on control of pests and diseases. Later the Coffee Board was providing periodical grants to the station for research relating to quality of coffee, till 1945 then the board decided that it should set up a research station in the state and took over the station in 1946 and started developing it as the Central Coffee Research Institute, with a separate research department under the Director of Research.

The Institute conducts research in increased production of quality of coffee. The objectives of the instate are to investigate into the influences of several cultural and soil management practices as well as nutrition on the yield of coffee ; the improve of coffee plants in vigour, resistance to leaf-disease: to investigate on nutrition of coffee plants as regards both major and minor nutrients, soil and moisture conservation and coffee processing technology ; to under take research of the various pests and diseases of coffee including their control measures ; and to render advisory services to the coffee-planters the work of

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the Institute is divided in to two wings: (1) Research and (2) Extension. The institute carried out experiments on various agronomical problems during several years and made practical reconunendations on sprinkler irrigation, pruning spacing and proper
methods of raising healthy plants. Section and breeding work carried out at the institute for year have resulted in evolving three high- yielding strains resistant to leaf rust, a disease common to coffee. The extension wing of the research Department was started in 1949 to disseminate and demonstrate technical know-how to planters and transmit their problems to the Research Department. Its main functions are an advisory nature High-yielding disease resistant selections are also demonstrated and popularized.

Indian Planters Association

A voluntary association of planters was originally started as early as 1893 at Chikmagalur to put forward the grievances of the Indian planters. In the beginning, the name of the association was North Indian Planters Association of Mysore. The main objectives of the association are to promote planters interests in general and to represent grievances of the planting commodity to the government *to* maintain co-ordination with other planting associations, chambers of commerce mercantile bodies, trade unions etc. The membership of the organization is open to all planters who own plantations of coffee, tea, rubber and cardamom in the districts of Chikmagalur, Dakshina Kannada and Shimoga. This association is affiliated to the Kamataka Planters Association Chikmagalur, and the Coonoor, Nilgiris districts

Karnataka Planters Association

The Karnataka Planters Association was started in 1958 with the object of protecting plantation interests in Karnataka and to educate its members about the internal and external problems faced by them, and to find out solutions for them. The membership of the Association is open to owner of coffee, tea, pepper and cardamom estates in Karnataka. The affairs of the Association are managed by an Executive Committee elected each year. The committee headed by a chairman, is elected by the General Body every year.

Establishment of Coffee Board

1. Support to Small Growers Scheme in X*" Plan (2002-2007)

In the X*^ plan (2002-2007) for coffee development, the board has formulated a scheme entitled Support to Small Growers Sector (SSGS), to provide incentives to small growers with holdings of 10 ha and below to augment production of arabica crop through replanting old arabica blocks with new arabica and replantation of robusta blocks with arabica material in suitable areas/locations; to enhance farm productivity m robusta holdings through irrigation by augmenting water resources, to improve quality of coffee by establishing suitable infrastructure at the farm level; to encourage use of pollution abatement measures in farm where coffee is wet processed.

The benefits under the modified scheme would be available to the small grower's w.e.f.l*' of April 2002. As many elements of the SSGS scheme are, also a continuation of the IX* plan scheme, the benefits will flow in respect of such components only, in respect of pending loan linked cases of IX" plan.

Objectives and Scope of the Scheme

The basic objectives of providing incentive in critical areas of developments is to bridge the yield gap estimated to be at 200kg/acre between the small holders and the large holders sectors as also improve the product (coffee) quality.

Further, under the present environment of global surplus in coffee and low prices it is only through improvement of farm productivity and lowering unit costs and producing value added products that farmer can become globally competitive. This is necessary as coffee is primarily an exportable commodity in India. The components of the SSGS scheme are: i. Incentive for replanting ; ii. Incentive for water augmentation ; iii. Incentive for quality up gradation at farm level, iv. Incentives for implementation of pollution abatement measures on the basis of recommended technologies of the board.

The Govt, of India vide letter No.4/l/2002-plant (B) (vol. II) dated 11 July 2003 has approved the coffee board's plan proposal viz., support to small grower sector for implementation during the 10* plan period with an outlay of Rs. 36.20 crores on the following conditions.

1. The board will extend 20% subsidy for (a) Replantation (b) Quality upgradation; (c) pollution abatement and 25% subsidy for water augmentation activities as proposed in the EFC format. The ceilng limit for water augmentation will be Rs.50,000.
2. The board will maintain a ratio of 75:25 in favour of robusta while extending subsidy support for quality up-gradation with regard to regional spread. Also, extending support to quality up-gradation in arabica will be restricted for a period of two years only and the same may be reviewed there after.

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3. The assistance shall be generally credit linked. However the board may extend such assistance to select cases where fiinds are raised from other authorized sources as well.
4. No new post will be created and the scheme will be implemented with the existing man power available with the board.
5. A reviewed, evaluation and monitoring mechanism shall be put in place for this scheme.
6. The expenditure for implementing the scheme will be met by the board of the approved plan funds of the board during the 10* plan period and no additional separate funds would be provided to the board for this purpose.
7. The Coffee Board will send the status of implementation of the scheme to this department from time to time.

Physical and Financial targets of SSGS Scheme in X **plan:**

1. Replantation: The Board has set a target of new planting/replanting of 10000 ha with arabica variety. This will include replantation of existing arabica tracts by removal of old/moribund plants and also substituting of robusta with arabica in locations suitable for arabica cultivation.
2. Water augmentation: The Board proposes to provide incentives for establishing 1400 units to facilitate water augmentation by development of tanks, wells, storage dams, bore wells etc. water harvesting and provision of protective irrigation that will improve production/productivity to stabilize and increase production.
3. Quality Upgradation: The Board proposes to provide incentives to improve quality by encouraging preparation of washed coffee (a value added product) wherever water sources are available by setting up washing stations using pulpers. Further, under this component incentives to develop hygienic drying and storage facilities by construction of proper drying yards and storage godowns, at the farm level will be given. The numbers of units envisaged are 750 during the X plan.
4. Pollution Abatement Measures: Combating the pollutants arising out of the coffee effluents by use of Bioreactor (developed by ASTRA 11 Sc.,) will be incentivised through a subsidy of 20%. Other technologies recommended by the respective pollution control Board of thr state will also be considered provided its efficacy is accepted by the Board. The total numbers of units proposed are 440 during X plan.

While the subsidy support is generally credit linked at levels cited in the foregoing paras, the Board will be poen to extending such assistance when funds for investment are raised from authorized sources on a proper case by case appraisal. The Board with the involvement of nationalized Bank/authorized financial institutions will implement the scheme.

The over all physical and financial targets envisaged in the X plan under this scheme are as follows Item	**Phy. Target (in Units)**	**Financial Target (Subsidy) (in Lakhs)**
Replantation	10,000 ha	1800
Water Augmentation	1400 units	700
Quality upgradation	650 units	750
Pollution Abatement	440 units	220

Conclusion:

India has been a predominantly agrarian economy and agriculture continues to be main stay of our economy even today. With the globalization the agriculture sector has opened up with new avenues, especially for horticulture enterprises. Coffee, is one of the important commercial plantation crops of South India. It is also a social, institutional and cultural fabric of southern states of India. Coffee has a wide range of use, both as a beverage and preparation of food such as chocolate.

Coffee is cultivated in India in Chikmagalur, Kodagu and Hassan districts of Kamataka, Wayanaad, Idikki and Palakkad districts of Kerala, Nilgiris and Yercaud in Tamil NAdu, Srisailam and Visakhapatanan in Andhra Pradesh, Bastar in Chattisgarh, Koraput in Orissa, West Khasi hills in Meghalaya, Haflong and Mizoram, Dimapur and Mokokchung in Nagaland and Deomali in Arunachal Pradesh. Presently coffee is cultivated on 0.35 million hectares in India with a production of 0.33 million. Coffee consumption in India is only 550000 tonnes / year or 18.3% of the total production.

Small farmers account for 98% of total holdings and contribute to 60% of coffee production. The remaining 2% is contributing to 40% of the coffee output from 11 lakh ha (Anon, 1988a). In Kamataka, coffee is commercially grown in the districts of Kodagu, Chikmagalur and Hassan. Coffee productivity in a given situation is dependent on agro-climatic factors, production technologies employed and managerial

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practices adopted. The agro-climatic factors include soils, topography, rainfall, temperature, humidity and day length. In the current scenario of falling prices the farmers should be more competitive and know how to maximize quality output from a given area with minimum cost.

References:

1. Ananth, B.R., Iyengar B.R.V. and Chokkann, N.G. (1966). *Wide Spread Zinc Deficiency in Coffee Growth in South India.* Indian coffee, 30(3): pp. 5-10.

2. Chandler (1968). *Bulletin 211 Agriculture Experiment station.* University of Puerto Rico. Rio Piedras, puer to Rico, pp. 1-84.

3. Chengappa and Muralidharan (1981). *Factors Affecting Price Variation in Coffee Between Pool Auction During Any Particular Month,* Agricultural Economics, Coffee Research Abstracts- India, Platinum Jubilee 1925-2000, pp. 270-274.

4. Chengappa, P.G. (1981). *Growth Rates of Area, Production and Productivity of Coffee in India,* Journal of Coffee Research, 11(2): pp. 19-26.

5. *Chikmagalur District at a Glance 2005-06.*

6. Farooqi, A.A. and Sreeramu, B.S. *Coffee,* Tropical Horticulture, pp. 475-499.

7. Fredrerick L. Wellman (1961). *Coffee, Botany, Cultivation and Utilization,* pp.1-3

8. Gazetteer of India, Government of Karnataka, *Karnataka State Gazetteer Chikmaglur District 1981*, pp. 2-300.

9. Gemtessa, K. (1991). *An Analysis of the structure of Ethiopian Coffee Exports,* M.Sc. (Agri.) thesis, University of Agricultural Sciences. Bangalore.

10. Gopinandhan, T.N., Paneer Selvam, P. Velmourougane, K. and Aidu, R. (2001). *Improving Coffee Quality through Prevention of Mould Formation,* Plant Harti Tech., Vol. 2, No. 6, pp. 10-14.

11. 41. Gregr, V. and Sakango, A.N. (1991). *Effect of the perform Fertilizer on Nutrient Uptake by the Coffee Tree,* Agriculture Tropica-et-sub tropica, 24: pp.11-19.