

Paliyaar Natural Coffee

This case intends to focus on getting the paliyaar tribes improve their living through developing their niche product the natural residue free coffee. It would be interesting to see the ways in which this particular product could reach the consumers and in turn benefit the community in the next few years. The analyser could come up with ways to reach the market in a manner which sustains interest and exhibits scope for development and growth

Introduction

Korankombu is a village in the Pulney hills (Kodaikanal block) in Dindigul district of Tamil Nadu. With reference to the news article of The Hindu, “Paliyar tribals produce high quality residue-free coffee”, it was intended to understand the traditional low-cost cultivation methods which they use, so that we could intervene and help the difficulties they are facing. A coffee bean is a seed of the coffee plant and the source of coffee. It is the pit inside the red or purple fruit often referred to as a berry. Just like ordinary cherries, the coffee fruit is also a so-called stone fruit. Even though the coffee beans are seeds, they are referred to as "beans" because of their resemblance to true beans. The fruits – coffee cherries or coffee berries – most commonly contain two stones with their flat sides together. A small percentage of cherries contain a single seed, instead of the usual two. This is called a "peaberry". The peaberry occurs only between 10 and 15% of the time, and it is believed to have more flavour than normal coffee beans because of its single bean shape which gets roasted on all its surface. The two most economically important varieties of the coffee plant are the Arabica and the Robusta. Approximately 60% of the coffee produced worldwide is Arabica and close to 40% is Robusta. Arabica beans consist of 0.8–1.4% caffeine and Robusta beans consist of 1.7–4% caffeine. As coffee is one of the world's most widely consumed beverages, coffee beans are a major cash crop and an important export product, counting for over 50% of some developing nations' foreign exchange earnings. The term "green coffee bean" refers to unroasted mature or immature coffee beans. These have been processed by wet or dry methods for removing the outer pulp and mucilage and have an intact wax layer on the outer surface. When immature, they are green. When mature, they have a brown to yellow or reddish colour and typically weigh 300 to 330 mg per dried coffee bean.

Coffee production and consumption

Total coffee production (2017-18) all over the world is 9579780 tonnes. India produces 350400 tonnes of coffee, which is 3.6% of the total world production (2017-18) of coffee. Total consumption of coffee in the world as a whole per year (2017-18) is 9471480 tonnes and total consumption of coffee in India per year (2017-18) is 138000 tonnes as of 2017. This figure is an increasing trend in the last 5 decades. area of coffee in India is on an increasing trend since 1950. The plantation area of coffee for Arabica is slowed increasing but on the contrary, the Robusta is on a huge increasing trend in India.

The production quantity of Arabica has slowed down drastically when compared to Robusta which is on a huge increasing trend. The last few years, the plantation area is slowed down and the production quantity of coffee from India is declining. In India, since 1950 to 2018, the coffee production area has been increased by 491%. Arabica coffee contributes 50.3% of the total coffee plantation in India, and Robusta contributes to the rest 49.7%.

The planted area of Arabica and Robusta in India in 1950 is at the ratio of 7:3, but as of 2018, the ratio is exactly 1:1. Karnataka, Kerala and Tamil Nadu are the major coffee plantation states of India in terms of both planted area and production of coffee bean. In Karnataka and Kerala, Robusta variety of coffee plant is predominantly cultivated. In Tamil Nadu, Arabica is cultivated almost 5 times more than Robusta. In Pulney hills of Tamil Nadu, Robusta is cultivated only for 6% of the total coffee plantation. Tamil Nadu accounts for the 5.5% of the total coffee bean production in India on 7.8% of the total coffee cultivated the land. Whereas Karnataka holds 53.8% of the total coffee cultivating land and contributes to 70.3% of the coffee bean production in India. Growers owning/cultivating coffee in an area less than 10 acres are small growers, and more than 10 acres are termed as large growers. In India, small holdings account for the 70% of the total coffee production, while large growers contribute the remaining 30%. In Tamil Nadu, smallholders contribute 97% of the coffee production, while large holders contribute only 3% of the total production.

There are two major methods of processing of coffee berry to coffee bean, they are wet processing and dry processing. In the wet method of processing of coffee, after berry is harvested, they are sorted and over ripen or under ripen cherries are removed. This ensures that only perfectly ripen cherries are processed in making coffee. At the end of this process, parchment bean is obtained. This is then dried, usually under the sun and it is conditioned, then it is packed and stored for future use. The parchment is then removed to obtain the coffee bean, which is then roasted and grinded to get into powder form. In the dry method of processing of coffee, the berry coffee is first picked from the plant manually. These cherries are then sorted where the unripe fruits are separated from the red berry. The collected ripe coffee fruits are then sun-dried on a drying yard having an approximate capacity of 1000 kg. The berry is stirred at regular intervals for even drying. Then these dried cherries are winnowed remove dried leaves, dirt, twigs, etc., before packing and storing. In common practice especially among the small growers to dry berry coffee on surfaces which are plastered with cow dung. Coffee being very sensitive to foreign taints absorbs the taste/smell of the drying yard on which it is dried. It has been observed that coffee dried on these surfaces of tastes like “earthy” in the cup. A buyer who comes for cup tasting immediately rejects this type of coffee. Hence, Berry coffee should be preferably dried on concrete surfaces or surfaces with polythene sheets. Stores should be kept well ventilated and dry without letting in moisture or rainwater. The bags containing dried parchment or berry should be stored on a raised wooden platform to ensure circulation of air underneath the bags. The bagged coffee should be dispatched to the curing works at the earliest opportunity.

Wet processing and dry processing does not affect the quality and taste of the coffee beans. The quality of the coffee beans depends on several factors like climatic condition throughout the year on the region especially during harvesting, soil fertility, the temperature on the region, pest activity, etc. During the process of conversion of coffee berry into the coffee bean, the skin and pulp of the berry is not used anymore and doesn't contribute to coffee bean directly.

It is then converted as manure and then used to increase the soil fertility of the coffee plants in the same farm. In coffee plantation areas, aerobic method of composting is found to be most appropriate and efficient method of composting farm wastes. Materials required for composting are farm wastes, animal wastes, green material, compost enrichers like rock phosphate, bio-fertilizers, decomposition enhancing cultures (yeasts), nutrient additives/enhancers. Coffee berry waste, after parchment is removed, is utilized in making this compost. The berry waste obtained on one particular year is made as compost and utilized in for the farming for the subsequent years

Coffee research in India

India is one of the few countries in the world that have initiated research efforts in coffee with an objective of providing technical guidance to the planting community. The United Planters Association of South India (UPASI) established in 1892 took a first major step in organizing research efforts to tackle various pests and diseases afflicting the coffee plantations. Later, Dr. L.C. Coleman, the Director of Agriculture in the erstwhile Mysore government, in a major visionary effort established an exclusive research station for coffee namely the Mysore Coffee Experimental Station near Balehonnur in Chikmagalur district of Karnataka in the year 1925, with primary objectives of breeding resistant varieties and to evolve control measures against pests and diseases. During the 1940's, the coffee industry in India was in a desperate state due to the II World war resulting in very low prices and ravages of pests and diseases. At this time, the Government of India established the 'Coffee Board' through a constitutional act "Coffee Act VII of 1942" under the administrative control of Ministry of Commerce and Industry. The Board was entrusted with the responsibilities of extending support to the coffee industry in the areas of marketing, finance, research and development. Accordingly, the Coffee Board took over the reign of the 'Mysore Coffee Experiment Station' in the year 1946 and rechristened it as Central Coffee Research Institute. This Institute was made as the Head Quarters of the Research Department of the Coffee Board with a larger mandate of undertaking extensive research on coffee covering different disciplines and dissemination of technology to the growers from time to time. The coffee areas in Tamil Nadu come under the North-East monsoon influence with low rainfall and hence require a separate set of a package for cultivation. Realising the importance of the region as a substantial contributor of Arabica coffee, a regional station was established in an area of 12.5 hectares near Thandigudi village in Pulney hills of Tamil Nadu.

The CCRI and all its Regional Stations are involved offering the following services support for the benefit of planting community. • Training of estate personnel at managerial and supervisory cadres on improved coffee cultivation. • Production and supply of planting material (seeds/clones/grafts) of improved varieties. • Analytical and advisory services on soil amendments, nutrient management and quality testing of inputs used in nutrition and plant protection. • Multiplication and supply of biocontrol agents against pests and diseases. • Field visits and advisory to solve field problems. • Estate adoption on charging system for improving the productivity of plantations.

Korankombu growers

It was found that has around 67 families with a headcount of 300 people including a workforce of 100 people. These people are daily wage workers who does farming work for growers in the nearby villages. These people had cultivated coffee plant in an area of 50 acres in forest land 5 - 6 years ago and it started yielding recently. These growers got the land they cultivated from the government and forest officers as a token of appreciation for their efforts in cultivation. Two years ago, government of Tamil Nadu has also given them land of 210 acres to cultivate for the improvement of their economic standard, and that area was also cultivated with Arabica coffee plants two years ago. Korankombu growers reaped close to 2 tonnes of parchment coffee beans last year from the 50 acres of land where they cultivated coffee 5-6 years ago. And this yield is going to increase exponentially in the next 6-7 years as coffee yields only after 7 years of plantation and also due to the yield of coffee from the 210 acres where they planted coffee 2 years ago. Korankombu growers are using traditional methods of processing of coffee berries by hand. As the yield are low, these methods are enough for now. But, as the yield grows exponentially in the next few years, this manual method will not be sufficient to process coffee berries. These growers must adopt to the changes in technology of processing of coffee to minimise their waste and get more return from the coffee farms.

Lack of awareness

As the Korankombu coffee growers have just entered in to the coffee farming, they are not aware of pests that might affect the plant and berries when they grow. They are also not investing in fertilizers and pesticides in the 50 acres in which they are cultivating coffee. Not using pesticides has it's USP in selling coffee, maintaining a farm as huge as 260 acres just by 100 growers will be hard without fertilizers and pesticides. We also believe that these farmers must be educated well with the techniques of farming coffee in order to make this village self-sustainable. According to our current estimates, the quantity of parchment coffee beans from korankombu would be around 90 tonnes per year in the next 7-8 years.

In order to process such a huge quantity of coffee berries, the growers must be equipped with proper knowledge, machineries and infrastructure. In our interaction with the growers, we briefed them about the existence and functions of coffee boards, JLO and horticulture offices and their location in their village. In our interaction with the growers of korankombu, we found that, they are not aware of, but interested in making coffee powder with proper machineries and technology.

Korankombu growers of coffee are processing coffee with their bare hands with retro technologies. The 2 tonnes of parchment coffee beans last year has been processed manually and made in to powder form, which they are marketing under their name. With the increase in production quantity in the following years, intervention of technology would help them a big way in their coffee production, processing and marketing.

These are the present day resources which they have to grind and roast the coffee beans into coffee powder. The bottle neck now is that, process labour intensive, since the coffee plant is young they have less yield on coming years the yield will be increased substantially, which would in-turn make them inefficient to produce enough coffee powder to sustain the cost of production. It would be very important for the coffee growing community to help each other for increase in production and the management of coffee waste, they already have an exposure in marketing coffee powder. The growers need to focus on picking the coffee berries. A huge market available but prices and reaching customers are a big question. The Paliyar tribe people are young entrants into an already established market which is critical. The present system which they are using to convert coffee beans into powder has a lot of bottlenecks to scale in the future. So the naturally grown coffee available only with paliyaar tribe need to reach everyone and this will in turn help their community to get developed.