

Sustainable Tea at Ambootia: A Case Study

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Abstract

Nestled amid the lush green hills of Kurseong in the Darjeeling district of West Bengal, Ambootia, is a family owned tea estate that has a long tradition of working with nature and not against it. Established by the British in the mid-19th century, Ambootia was famous for producing some of the best Darjeeling teas till the 1960s and 1970s. But, by the 1980s, tea quality and yield started declining due to neglect and heavy dependence on chemical farming. In 1985 its annual production fell to 100 tonnes from about 250 tonnes earlier; the estate was on the verge of financial ruin. This case discusses the turnaround of the Ambootia group from near bankruptcy in 1984 – 1985 as being a signature label found in exclusive stores found all around the world today.

Keywords : Business process re-engineering, environment, forestry and ecological management, sustainable business practices

Darjeeling, the “champagne of teas”: brisk, flowery, round, mellow, and sparkling. When brewed properly, Darjeeling tea leaves yield a thin-bodied, light-coloured liquor with a floral aroma and a musky spiciness. The tea gardens of Darjeeling have produced the finest teas in the world since the 1850s. Many of these beautiful tea estates fell sick and some were abandoned. One of those abandoned was the historic Ambootia Tea Estate.

Nestled amid the lush hills of Kurseong in Darjeeling district of West Bengal, Ambootia, has been transformed by organic farming. About three decades ago, the Ambootia tea estate was close to financial ruin; heavy dependence on chemical farming had been its undoing. Today, the 966-hectare estate is fully organic and annually exports about 165 tonnes of Darjeeling tea of 24 types to Europe, the US, Iraq, Libya, and Japan. In England, a variety of Ambootia tea is sold exclusively in Harrods for Rs. 25,000 per kg. Called Harrod's Tea, it is also served at the store's world-famous restaurant, the Georgian.

In the 1960s, Ambootia was known for producing some of the finest Darjeeling teas. But by the 1980s, tea quality and yield started declining due to neglect and chemical farming. In 1985, annual production fell to 100 tonnes from about 250 tonnes earlier. The estate was on the verge of being declared sick when Sanjay Bansal bought it in 1986.

After running the estate for a few years, Bansal decided to go organic in 1994. Sanjay's decision came as a

surprise to everyone and scared people including his family members, as at that time no one had any concrete experience in running organic tea gardens.

The Darjeeling Tea Industry and Ambootia Tea Estate

Tea is a legend. The plant, whose juice warms many a million hearts around the world and runs as the lifeline for many has become an indispensable part of our lives. It has always been a subject close to the hearts of innumerable researchers. The bibliography of tea runs into massive volumes, it is not a light subject that can be brewed in a few minutes and poured into a cup to sip relaxingly, but one that is vast with unfathomable depths.

India is the second largest producer of tea; it is also the highest consumer of tea globally. 80% of tea produced in India is consumed locally. The per capita consumption of tea is however, another interesting factor to look at. India's per capita consumption of 650 gm is lesser than that of Pakistan and UK where the consumption is 1.00 Kg and 2.50 Kg respectively (Exhibit 1).

Tea cultivation in Darjeeling dates back to the Englishman Arthur Campbell (1805- 1874). Campbell was transferred to Darjeeling in 1839 from Kathmandu, Nepal and used seeds (*Camellia Sinensis*) from the Kumaun region in China to begin experimental tea planting near his residence “Beechwood” in Darjeeling.

The Darjeeling region is cool and wet, and is tucked in the foothills of the Himalayas. Tea plantations reach an

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altitude of 2200 metres. The tea is delicately flavoured, and is considered to be one of the finest teas in the world. The Darjeeling plantations have three distinct harvests, termed 'flushes', and the tea produced from each flush has a unique flavour. First (spring) flush teas are light and aromatic, while the second (summer) flush produces tea with a bit more bite. The third, or autumn flush gives a tea that is lesser in quality.

At Ambootia, "tea is a way of nature." This Darjeeling garden, nestled in the foothills of the Himalayas, enjoys a unique combination of climate and elevation that give its teas a distinct character. Ambootia was among the first tea gardens established by the British in the mid-nineteenth century and became Fair Trade certified by Fairtrade Labelling Organizations International (FLO) in 1994.

With a strong resolve to work with and not against nature, Ambootia started transitioning to 100% organic and biodynamic production in 1992.

Tea and the Bansals: A Background

Darjeeling Organic Tea Estates Private Ltd., known by its principal estate, Ambootia is a family owned company, led by Sanjay Bansal. It is the second largest tea producer in the Darjeeling region and the largest producer of biodynamic Demeter certified tea in the world.

Sanjay Bansal, the son of a former Assam tea planter was born in the year 1961 in Ambootia Tea Estate. His tryst with the garden began long before he acquired it in 1986. A native of Dehradun in Uttarakhand (then Uttar Pradesh), Sanjay's father started working as a tea planter in an estate in Assam in the year 1948. During his long and illustrious career in tea S. P. Bansal (Sanjay's father) also happened to serve as a manager at Ambootia Tea Estate during its days of glory in the 1960s. The Bansal family shared a very strong relationship with the workers of the garden. It was this relationship that resulted in the workers inviting Sanjay to take over the garden in its hour of crisis. Thus, Sanjay Bansal acquired the garden in which he was born and where his father once worked. Being a planter's son, Sanjay learnt about the tea business in his growing up years. He had learnt that sustainable agriculture was the best way to guarantee high quality in the long run (Bansal, 2014).

As the chairman of the Ambootia group, Sanjay and his team successfully turned around 11 sick tea estates, and he can deservedly be called *the doctor of sick tea estates*.

The Trigger Towards Sustainability

The Ambootia Tea Estate is situated at 950-1450 m above sea level and consists of 966 ha (Crucefix, 1998). It is one of 83 gardens which constitute the Darjeeling tea industry and dates back to the estates established by the British in 1856. In the 1980s and 90s the estate, like many others had suffered declining yields. Total production of Darjeeling had fallen from 14.5 million kg in 1990 to 11 million kg in 1995. Production on the estate itself slid from 206 tonnes in 1989 to 171 tonnes in 1991 despite optimum use of chemical fertilisers and pesticides. Deforestation had led to serious soil erosion culminating in a landslide that took many worker houses with it. In 1986 the workers invited a past manager to take over ownership in an attempt to revive the estate's fortunes. A commitment to long term sustainability led the management to convert to organic and finally to biodynamic systems. As in many similar projects, Ambootia was registered with TransFair International in 1994.

Sustainable Practices at Ambootia: The Organic Transition

As a first step, it was decided to use cow dung as manure (Jamwal, 2004). When the management found the quality of manure available unsatisfactory (it wasn't properly matured), it bought 84 cows in 1995 to set up a cowshed. But running the cowshed turned out uneconomical because staff that had to be hired just to look after the cattle and other overhead costs. The management then came out with a novel idea. "The cows were handed over to estate workers, and a deal was struck. The workers would give cow dung and urine free to the management, whereas they could keep the milk for their family needs. This ensured their active participation. At present, there are 384 cows in Ambootia tea estate managed by the workers. As a further incentive, the management now 'buys' the cow dung and urine from the workers," says Bansal. The estate annually produces 300 tonnes of compost using dung and dry leaves, which is enough for its needs. Recently, vermicomposting (using earthworms to make compost) was also started. Leguminous plants have been grown for nitrogen fixation. *Gotimala* grass, a deep-rooted local variety, has been planted to help in soil aeration.

Turning organic was not a smooth transition. Initially, the yield fell. According to Bansal, just before going organic in 1994, Ambootia produced 200 tonnes of Darjeeling tea,

while the figure for 1997 was a mere 137 tonnes. Gradually, the production picked up: in 1998, it touched 178 tonnes (Exhibit 2). In 2000, when most tea estates lost 50-60% of yield to bad weather, Ambootia's losses were as low as 7-8%. Bansal attributes this to organic farming, which has increased the immunity of tea bushes to diseases and pests.

Beyond Organic: To Bio-dynamic

Ambootia has not stopped at organic farming (IBEF, 2014). In 1996, it introduced bio-dynamics: a system of agriculture that strives to build soil fertility through natural, homeopathic-type preparations.

The company adopted the biodynamic method of farming to turn around the plantation. Interestingly, this holistic farming practice, which was initiated by Austrian scientist and philosopher Dr. Rudolf Steiner has been influenced by ancient Vedic practices of agriculture. Today, the biodynamic farming initiative at Ambootia Tea Estate is recognised as a successful case study in the field. Ambootia uses preparations from locally available herbs and fermented manure to grow the tea crop. The tea grown is of better quality and flavour and is also healthier (Dutta, 2003).

Ambootia Tea Group is now the largest producer of biodynamic organic tea in the world. Its operations are integrated across the value chain to include cultivating, processing, warehousing, blending, packaging, and marketing of its tea. The group has benchmarked itself successfully to international standards of production and food safety by implementing good agricultural practices (GAP), good manufacturing practices (GMP), and food safety for market access.

An ideal bio-dynamic farm is a self-sufficient unit, a closed ecosystem that produces its own compost, seeds, and livestock. It operates within the larger context of the local community and the rhythms and relationship of nature and the cosmos. The group decided to adopt a socially and environmentally sustainable approach to the estate and with some assistance has developed a biodynamic management system that also meets fair trade requirements (Parrott & Marsden, 2002).

Key Features of Bio-dynamic Farming

1. Use of locally-gathered vermi-compost: making 100 tonnes of compost per year.
2. Doubling the size of the dairy herd, providing additional milk, and manure.
3. Use of leguminous species to provide nutrients and

ground cover, and of local herbs for biodynamic preparations.

4. Extensive tree planting to provide shade and to stabilise the hilly land.
5. Using soil covers and contour planting to prevent run off – the harvesting of the soil cover plants provides compost material.
6. Promotion of ecological diversity strengthens natural pest control leading to increases in ladybirds which feed on major pests, such as thrips, aphids, and red spiders.
7. Embarking on an extensive programme of pruning and replacing unhealthy plants – pruned areas are treated with BD bark paste, a biological disease inhibitor.

Hydro-electric Project

Some tea gardens have had small hydel power plants since the British era but, these plants were run on micro hydro turbine and need to be upgraded. Even Ambootia had a small hydel project and it was upgraded in 2004 with an expenditure of ₹ 2 crore. It has generation capacity of 100 Kw to generate eco-friendly power. This powers the factory during the period from June to October.

By using this renewable energy, tea gardens can generate power sustainably and also curtail their cost of production. Uninterrupted power supply is a genuine problem in that zone and the gardens entail huge expenses when they run operations on diesel. All these costs add to tea prices. These generating units can help cut production costs by 5-6%.

Soil Conservation Drive

The Ambootia landslide of October 1968 is the largest landslide triggered by extreme continuous rainfall in the Darjeeling Himalaya. The landslide developed as a result of linear erosion and was called a “landslide valley”. Ambootia has adopted the practice of planting 50,000 trees every year to increase green cover and prevent soil erosion and degradation. They also practice cutting of weeds rather than eradicating or uprooting to prevent erosion.

Worker Empowerment and Fair-trade

1. The estate buys cow dung and urine from workers to enhance their incomes. While, workers and their families consume the milk. Regular consumption of milk improves health of workers health and provides nutrition

which makes them fitter and more efficient. Improved fitness reduces absenteeism and increased efficiency improves output; both factors contribute to increase in workers' income.

2. Schools, hospitals, community centres, creches, and other facilities are provided for workers and their families.

3. Ownership of the estate is jointly held by workers and the management instils a sense of combined commitment among them for the well-being and stability of the estate.

4. Workers are involved in bio-dynamic practices to allow around the year income. Thus, work load is spread more evenly over the year leading to an increase in full-time as opposed to part-time income.

Organic & Bio-dynamic Certifications

1. Ambootia has been selected as a model farm for Darjeeling organic tea under the United Nations FAO Project. A model estate for organic and bio-dynamic system of agriculture, it is certified by several International Organic Standards.

2. The processing facilities are HACCP and SQF Certified to meet the stringent International Food Safety Standards for market access.

3. Certified Organic by IMO and certified bio-dynamic by Demeter.

4. Certified by the Fairtrade Labelling Organisations International for social practices that have ensured a better quality of life at the grassroots level.

5. Ambootia has won the 2nd prize through a global voting process for The Workers' Homestead Project from Nature & More, Netherlands, an independent foundation that evaluates quality aspects of organic food in order to make the inherent values of sustainable agriculture and corporate social responsibility visible to the consumer.

Challenges and Obstacles

The main problem has been in surviving the conversion as on top of the bad state of the estate before 1986, heavy investment was required in the early years. The first steps involved rejuvenation and pruning of the tea plants, increased planting and increasing temporary and permanent shade trees. During the years subsequent to the adoption of the organic system, yields fell from 487 kg per ha in 1994 to a low of 404 kg per ha in 1996, a 17% reduction. This drop along with increased costs put pressure on the estate but was balanced by the improved market access and premium prices achieved by the organic and fair-trade status. Fair and assured prices kept

the estate viable.

Benefits & Impact of Organic and Bio – Dynamic Farming Agricultural Impact

1. Soil fertility is improved using leguminous green manures and compost.

2. Soil erosion is reduced by contour planting, maintaining soil cover and cutting, rather than eradicating weeds.

3. The soil is more moisture retentive than under conventional management which has led to a more stable yield in dry weather.

4. The emphasis on ecological diversity has helped develop natural predator populations.

5. Increase in the number of ladybirds which feed on aphids, thrips, and red spider mite resulting in sharp reduction of pest related problems.

Environmental Impact

1. Tree plantation drive of 50,000 trees annually has increased bio-diversity providing more natural habitats for predators and resulted in reduction of soil erosion. This was part of the management plan to increase diversity providing more habitats for predators and reducing soil erosion.

2. The management and workers believe that the discontinuation of the use of agrochemicals has led to a healthier environment through less water contamination and better air quality. Respiratory diseases are reported to be down since chemical use stopped.

3. The premiums obtained through organic and fair-trade status have enabled the estate to undertake a systematic landslide rehabilitation programme which had previously been put off due to lack of funds.

4. The estate has also set-up two hydroelectricity projects of 100 kilowatts which provide up to 70% of the seasonal requirement of power. This development has reduced dependence on polluting fossil fuels having a small but important impact on a wider scale.

Economic Impact

1. The move from a high to a low external input system has meant an increase in labour requirements (35%) which provides increased income to the workers.

2. The emphasis on developing a largely closed system has led to the production of herbs required in the

production of biodynamic preparations.

3. The collection of biomass and cow manure for compost production involves a large number of workers. The estate makes and applies 2100 tonnes of compost every year, mostly un-mechanised. The work load is spread more evenly over the year leading to an increase in full time as opposed to part time work.

4. To produce more compost the estate has encouraged workers to keep cows. The milk provides a further source of income for the workers.

5. No figures were obtainable on economic performance of the estate overall, but it continues to thrive. It has recently developed a new range of exotic teas including white, green, Oolong, and Souchong.

Social Impact

1. As a result of the decline of the estates, the workers suffered a number of lockouts between 1981-1986 causing disruptions to their livelihoods. The cooperation between management and workers in rebuilding the estate has engendered a combined commitment and respect and a sense of stability hitherto unknown in the tea industry in India. This has been stimulated by fair trade registration.

2. The fair trade and organic evaluations set out guidelines, make suggestions, and monitor implementation of issues from compost systems to worker involvement in the running of the estate.

3. All statutory labour requirements are met and a joint body of workers and management decide upon welfare schemes using the product premium.

4. Sports and recreation centres have been built to foster community spirit and investments in education have seen a reduction in the student teacher ratio, an increase in the availability of computers and the introduction of a scholarship scheme.

5. An efficient garbage collection scheme has been introduced to maintain hygiene around the estate

Institutional Impact

1. The estate is owned by workers and management and run on a cooperative basis, which has led to a strong organisation.

2. The manager of the estate is the founding chairman of the Bio Organic Tea Association in India which has assisted in promoting the organic message to government.

Concluding Thoughts

The techniques of tea cultivation and production have emerged over the centuries through various stages of trial and error, research, and experimentation. Whether it is sowing and planting of seeds or more complex processes like plucking, manuring, pruning or production, all processes associated with tea have undergone major changes. The industry is likely to witness further changes in the years to come, with increasing cost of labour and inputs and changing climatic conditions becoming a major cause of concern. This atmosphere of change in an industry is so crucial for the nation. The Ambbootia way should guide and inspire other businessmen and entrepreneurs to incorporate sustainability in their business practices.

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